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DIESEL RAILWAY TRACTION SUPPLEMENT

The April issue of THE RAILWAY GAZETTE *Supplement, illustrating and describing developments in Diesel Railway Traction, is now ready, price* 1s.

GOODS FOR EXPORT

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this paper should not be taken as indicating that they are available for export

NOTICE TO SUBSCRIBERS

Consequent on paper rationing, new subscribers in Great Britain cannot be accepted until further notice. Any applications will be put on a waiting list, and will be dealt with in rotation in replacement of subscribers who do not renew their subscriptions. Orders for overseas destinations can now be accepted

POSTING "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE *possesses the necessary permit and facilities for such dispatch.*

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas

TO CALLERS AND TELEPHONERS

Until further notice our office hours are: Mondays to Fridays 9.30 a.m. till 5.30 *p.m.*

The office is closed on Saturdays

ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter

ERRORS, PAPER, AND PRINTING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards

Research Organisation for British Export Trade

A NUMBER of large industrial undertakings has become founder members of the British Export Trade Research Organisation, which is to carry out co-operative export market research for its members. The main object is to obtain and make available first hand information on markets, marketing and sales methods in overseas territories, and allied with this will be a joint overseas advertising service, to be called the British Export Trade Advertising Co-operation. The Department of Overseas Trade has stated that it is fully in accord with the aims and objectives of the organisation, and that if it receives sufficient industrial support, the department will continue to give any help that may be possible. It is intended that the British Export Trade Research Organisation shall be non profit-making and will derive its revenue from two sources—membership subscriptions and payments for specific research. Ordinary members are to pay a yearly subscription of £100 for the use of the ordinary services of the organisation, and the founder members undertake to subscribe £500 a year for three years, at the end of which period they will become ordinary members. The founder members are all large industrial undertakings most, and probably all, of which have their own research organisations, so that their initial subscriptions are made largely for the public weal.

Reid Committee's Report on Coal Mining

The Technical Advisory Committee set up by the Ministry of Fuel & Power in September, 1944, to advise what technical changes were necessary to bring the coal industry to a state of full technical efficiency, has now made a report which has been issued as a White Paper.* The recommendations concerning high-capacity coal wagons are dealt with elsewhere in this issue. Mr. Charles Carlow Reid, Director of Production, Ministry of Fuel & Power, the Chairman of the committee, the other members of which consisted of six prominent mining engineers, are all practical men well versed in the production side of the industry. The committee found that technical changes are vital if the cost of production of coal is to be so reduced as to enable the industry to meet all the needs of the country. It recommends further amalgamations within the coal mining industry, but does not suggest what size of unit should be sought. Indeed, it admits that there would necessarily be variations in the optimum size according to local conditions. The Chairman at a conference explaining the report, said that the Committee did not believe that public ownership of the mines would solve the problems of the industry; indeed, advocates of nationalisation will not be encouraged by the report. The committee emphasises that the further integration is carried, the more important it will be that scope should be provided within each unit for the greatest opportunity for and encouragement of individual initiative.

Mr. Szlumper's Report on South African Railways

Mr. Gilbert S. Szlumper who has been investigating railway facilities in Johannesburg, has now made his report, which has been tabled in the Union Assembly by Mr. F. C. Sturrock, Minister of Transport. A message received from our Johannesburg correspondent states that among the recommendations is one that the whole of the Wanderers Ground should be used to provide adequately for railway, civic, and public requirements. The recreational facilities which would be lost to the public as a result of this should be replaced on other sites. Mr. Szlumper points out that railway traffic has increased considerably, and that a further advance is to be expected. The City Council has stated that provision should be made for a population of the Reef and its environs of 2,000,000 by 1975. The report points out that even assuming that there is an increase of only 500,000 persons during that period, all the available statistics indicate that suburban passenger traffic will have more than doubled its present volume by 1975; that is, it will have grown from the present number of about 67,000,000 passenger journeys a year to about 143,000,000.

Control Commission for Germany

The recruitment of the technical and scientific staff of the proposed Control Commission for Germany was the subject of a statement in the House of Commons by Mr. Eden recently. The Secretary of State for Foreign Affairs said he was aware of the competing demands for British technical and scientific personnel, and the staff required for the Control Commission would be recruited with due regard to the industrial needs of this country. The class of personnel sought was indispensable for the task of disarming Germany and rendering German war industries

* Cmd. 6610. 1s. H.M. Stationery Office

innocuous. Members suggested that it would have been better to have approached the professional institutions for these technicians; Mr. Eden replied that consultations had taken place but the qualifications were difficult and highly technical, and their range was wide. The numbers involved would not be very large and it was hoped to obtain them without causing undue dislocation. He added that there were two broad principles which the Government intended to follow in matters of this kind. One was that the job had to be done thoroughly and the other was that in manpower it must not be done extravagantly.

Rehabilitation of the Catering Industry

In our March 30 issue we dealt at some length with the report to the Minister of Labour & National Service by the Catering Wages Commission which made a number of recommendations in connection with the rehabilitation of the catering industry, and the measures needed to meet public requirements in the immediate post-war period. The portions of the report with which we dealt are concerned more especially with transport, to which a section of the report was devoted. In a letter published in *The Times* recently, Mr. Stanley Adams, Chairman of Thos. Cook & Son Ltd., paid a tribute to the Commission for having tackled its job with imagination and constructive ability, and he pointed out that although the recommendations may not be accepted in their entirety, they deserve commendation on the way in which there has been envisaged a measure of self-help to raise money to resuscitate and develop a sorely afflicted industry. Mr. Adams feels that the Commission has devised a plan to promote the tourist business which, coupled with the work the travel associations of Great Britain and Scotland have done, should bring beneficent results generally to the trade and industry of this country, and may enable the tourist trade of Great Britain to be one of the first big export businesses to get going after the war.

Overseas Railway Traffics

The declaration of war by Argentina on the Axis powers has had a stimulating effect on the prices of securities of the British-owned Argentine railways which is chiefly marked in the debenture issues although rises have also taken place in the preference and ordinary stocks. Apart from the small drop in Central Argentine receipts the traffics of the Argentine companies for the 39th week of the financial year have been generally satisfactory, as will be seen from the accompanying table. The Argentine North Eastern increase for the week is £2,367, and for the 39 weeks it has an aggregate gain of £137,500. With an advance of £1,373 for the week the Entre Rios is £156,373 up for the year to date. For the first quarter of 1945 the receipts of the Leopoldina Railway total £591,532, an improvement of £23,313, and the Antofagasta with traffics of £398,230 for the same period shows an increase of £28,040.

	No. of week	Weekly traffics	Inc. or dec.	Aggregate traffic	Inc. or dec.
		£	£	£	£
Buenos Ayres & Pacific	*39th	176,000	+30,666	5,627,266	+1,005,800
Buenos Ayres Great Southern ...	*39th	283,933	+61,200	8,728,866	+749,533
Buenos Ayres Western	*39th	73,733	+ 3,733	2,958,066	+492,666
Central Argentine	*39th	197,703	−764	7,543,260	+920,580
Canadian Pacific	13th	1,847,600	−73,800	14,726,400	−243,200

* Pesos converted at 15 to £

Aggregate gross earnings of the Canadian Pacific Railway for the first two months of 1945 amounted to £9,449,800, a decrease of £95,800 in comparison with the corresponding period of 1944, and the aggregate net earnings of £682,600 are £493,000 lower.

Assam Railways & Trading Co. Ltd.

A meeting of holders of the £1,000,000 of 5½ per cent. mortgage debenture stock of the Assam Railways & Trading Co. Ltd. held at Winchester House, E.C., on April 5 unanimously passed a resolution permitting the company to redeem on or before July 1, 1945, on giving one month's notice to the holders, the whole of such stock at the rate of £108 for every £100 with interest thereon to the date of redemption. Mr. E. A. A. Joseph, who presided, said that proxies had been received from the holders of £666,921, which made a clear majority in favour of the resolution; also a further £19,874 had been received too late to be valid. As explained in the circular issued to the stockholders the stock is repayable in the event of compulsory purchase by the Government on February 5, 1951, or February 5, 1961, at £105 for every £100 stock, or in the event of the voluntary liquidation of the company for the purpose of amalgamation or reconstruction, when the stockholders would be paid £105 for every £100 stock. It would be repayable on July 1, 1971, at par if not previously repaid. The purchase of the company's railway undertaking by the Government of India for £1,770,000 was an agreed transaction, and therefore was clearly not a compulsory purchase which the Government had no option to exercise until 1951. As the directors were not desirous of recommending the winding up of the company if satisfactory terms could be arranged for the redemption of the debenture stock, they approached the trustees of the stockholders, with the result that the price of £108 was put forward for acceptance.

Re-Equipment of Chilean State Railway

It is reported that the Chilean State Railways have issued a review of their post-war plans for the purchase of equipment, and that an expenditure of about £10,000,000 is contemplated on various items to be obtained as soon as the war ends. According to a Santiago correspondent of *The Financial News* the plans envisaged call for the importation of 10 steam locomotives, 100 third class steel coaches, 20 steel wagons, 15 rail cars, 50 diesel cars for branch lines and 50 refrigerator wagons. In addition, it is stated that the purchase of machinery, tools and equipment for the modernisation of railway yards and machine shops is contemplated and 15 electric locomotives of various types and of motor generator groups is also considered desirable. Improvements and electrification of certain sections will call for a substantial programme of rail renewals and bridge reinforcements; it is suggested that some 40,000 tons of rails will be required and that the need for bridge reinforcement material will amount to about 6,000 tons.

Lord Leathers Concerned by Road Casualties

Before the war casualties on the roads reached the annual total of 250,000 and there is every indication that as traffic increases after the war the figure may be still higher. Lord Leathers, Minister of War Transport, recently wrote an introduction to a series of articles on road accidents in *The Practitioner*, in which he expressed the view that traffic sense had become blunted and that the first necessity after the war would be a stiff refresher course in the rules of the road, particularly as there were now great numbers of untested drivers. In 1943 half-a-million provisional or learner licences were issued, and in addition, many thousands of service drivers have had little experience of normal traffic conditions. To restore the highways, which are now showing serious signs of wear and tear, to pre-war standards would require an expenditure of £30,000,000 to £35,000,000. Although human fallibility was recognised as the main factor in road accidents, the unsuitability of the road system also played a part. A study of road density at the Ministry had shown that 5 per cent. of the total road mileage carried the greater part of the road traffic of the country. Lord Leathers emphasised that a co-ordinated effort was needed by all concerned with roads and road safety and that a comprehensive plan of action must be evolved.

Post-war Aircraft Capacity

On the occasion of a recent press visit to Preston, Sir George H. Nelson, Chairman & Managing Director of the English Electric Co. Ltd., announced that his firm intended to continue to produce aircraft after the war. Starting from scratch, the company had built over 3,000 Hampdens and Halifaxes to the designs of Sir Handley Page, and the experience so secured would remain most valuable, not to engage in cut-throat competition with other aircraft constructors, but to join them in amicable relations. The firm had had similar intentions at the close of the 1914-18 hostilities but there was no vision in the Government at that time and the conditions became impossible. The shops at Preston in which the components of the present-day Halifaxes are produced, it was stated, are on the site where, some 80 years ago, a constituent firm built some of the first British electric locomotives, one of which, used by the then City & South London Railway, is now preserved at the Science Museum, South Kensington. More recently, the English Electric Company has undertaken many important railway electrification contracts, these products, however, chiefly emanating from its Bradford works. The Preston works were formerly responsible for many trams and trolleybuses, but during the war have been devoted primarily to aircraft, and at Stafford the firm has produced Crusader tanks, as well as numerous other munitions.

A Dispute about Detonators

Major G. R. S. Wilson's report, summarised elsewhere in this issue, on the accident at Romford, L.N.E.R., on Demember 29, 1944, shows it to have been a case of over-running of signals in a bad fog, as happened with much graver results on the same section of route, but a little further westward, at Ilford, on January 16 of the same year. In this case, however, the fogmen were at their posts and the colliding driver actually had seen a distant signal against him, and was thus aware that he might have to stop at an outer home some 1,000 odd yards ahead. The fog was admittedly very bad and it was dark, so that visibility was at

about the lowest level possible. The driver declared that he saw nothing further and heard no detonator, and his fireman supported him. He travelled over 1,700 yd. in this way and struck a goods train waiting at Romford Station, the guard of which was killed. The fogman at the outer home—there was no fog post at the intermediate home—declared that not only did the engine explode a detonator but that he got another on between the train wheels, which also went off. He appears to have been a competent and trustworthy man, and independent reliable evidence was forthcoming to the effect that one explosion was heard at his post, although no confirmation could be got of two having taken place. There was also some conflict of evidence as to the exact wording of his conversation after the accident with the guard of the colliding train and the telephone message he sent to Romford signal box when it failed to stop. Responsibility for the accident is placed by the report on the driver, although it emphasises the discomfort and disadvantage under which he was driving.

Sound Can Play Strange Tricks

These accidents in fog, to one of which Major Wilson, who inquired into it, makes reference in his latest report, nearly always involve some contradictory statements as to the explosion or otherwise of one or more detonators. There is no doubt that fog, combined with the topographical conditions on and near the line, can interfere seriously with the transmission of sound and may at times even reduce its effect at close range. When this is combined with some momentary inattention, or excessive attention to something else, such as straining to catch sight of a landmark, the possibility arises of a sound passing unnoticed, especially if there is some other sound that coincides with it. We believe that experiments have been conducted where an engine has been run over a route with a number of fog signals put down at unknown places, observers—obviously in this case deliberately on the watch to catch any explosion—being required to record what they heard, with surprising results. Therefore we can well believe a man when he says he heard nothing, although an explosion did take place; we cannot as readily comprehend the way in which such a man, who really admits that he has lost his whereabouts, continues to drive on for some distance in uncertainty. We confess that the state of mind on the footplate revealed in some of these accidents makes us feel uncomfortable.

Rapid Locomotive Repair on the L.N.E.R.

The heavy calls made on motive power at the present time make it essential that locomotives should be out of service as little as possible, although the quite exceptional demands which are made on them as a result of wartime conditions obviously result in the need for additional maintenance. On all British railways considerable thought has been given to methods by which the most expeditious repair of locomotives may be effected. Elsewhere in this issue are described the means adopted on the L.N.E.R. which enable a locomotive to be stripped completely and re-erected in sixteen days. The procedure adopted on the L.N.E.R. provides for work being done in a systematic rotation. Stripping takes two days. The stripped parts, such as the motion and similar fittings, are placed in skips and boiled in caustic-soda tanks. The parts are then examined and their wearing surfaces gauged. A system of colours is used to indicate parts requiring to be renewed or repaired, ready for further service, and a spare-part store provides for replacements. As parts are repaired, they go to a collecting centre and arrangements are made so that articles required are in position before they are needed.

High-Capacity Coal Wagons

IN 1929 the Standing Committee on Mineral Transport reported to the Minister of Transport and the Secretary for Mines that, under conditions then existing, the 12-ton wagon was the most suitable for general use, and that drastic reconstruction at terminals would be essential before any large extension of the use of 20-ton wagons could be regarded as a practicable and economical proposition. It expressed strongly, however, the view that, when practicable, definite and immediate steps should be taken to reconstruct the principal terminals which could not then accommodate 20-ton wagons, as their general adoption would reduce transport costs and increase the holding capacity of sidings. The committee realised that the conversion of colliery and other sidings and appliances was largely a question of cost and, in estimating this at £8¾ millions, made suggestions for financial assistance to be rendered to colliery owners. Apart from the improvements effected by the railway companies and the efforts of the G.W.R. to popularise the use of 20-ton wagons, comparatively little progress has been made, mainly because of the cost of adapting the colliery terminals.

It is, therefore, of interest that the report of the Technical Advisory Committee to the Ministry of Fuel & Power on the subject of coal mining, published recently, should express the view that the future use of the 20-ton coal wagon is certain. The committee contend that although the use of 20-ton wagons would necessitate an increase in the clearances under the screens and the alteration of weigh-bridges and curves in sidings, it would be difficult to distribute the bigger tonnages from the large mechanised mines of the future unless transport arrangements from the collieries could be carried out efficiently. This problem, it suggests, would certainly be eased by the general use of wagons of 20 tons capacity, or even more, and the handling costs per ton in the colliery sidings would also be lessened. Accordingly it recommends that all new or re-modelled mines should be able to accommodate wagons of at least 20 tons capacity. We observe, however, that, probably because the Committee consisted of technical experts, no reference was made by it to the equally important subject of the post-war common user or pooling of colliery wagons.

Record Railway Receipts

THE Government White Paper on the operation of the Government controlled railways shows that the estimated gross receipts of the controlled undertakings during 1944 reached a new record of just over £394 millions; this was an increase of about £12½ millions over those for 1943, which were the highest since the commencement of control. Expenditure, however, increased to a greater extent and was estimated at just over £301 millions, an increase of nearly £29 millions over the previous year; this increase, incidentally, was the highest in any one year since the commencement of Control. The deficit in the net revenue from ancillary business (such as steamboats, docks, hotels, collection and delivery of parcels) and rents, interest and other miscellaneous items, showed a reduction of nearly £1 million, with the result that net revenue totalled £90,256,000 as compared with £105,568,000 in 1943, a decrease of £15,312,000. The fixed annual sums payable by the Government to the controlled undertakings amount to £43,469,000 and the net revenue remaining in the pool after payment of these sums during the

ESTIMATES OF THE POOLED REVENUE RECEIPTS AND EXPENSES AND RESULTANT NET REVENUE OF THE CONTROLLED UNDERTAKINGS

	Year ended December 31			
	1941 £	1942 £	1943 £	1944 £
Receipts and expenditure of the controlled railway companies and joint lines in respect of railway working and of the London Passenger Transport Board in respect of railway working and road services :				
Receipts : Passenger	132,106,000	163,544,000	186,281,000	194,638,000
Freight	158,826,000	176,658,000	190,908,000	196,066,000
Miscellaneous	2,903,000	3,285,000	4,490,000	3,656,000
Total	293,835,000	343,487,000	381,679,000	394,360,000
Expenditure	226,636,000	251,715,000	272,247,000	301,167,000
Net receipts	67,199,000	91,772,000	109,432,000	93,193,000
*Other receipts and expenditure included in the pool (net)	Dr. 2,074,000	Dr. 2,646,000	Dr. 3,864,000	Dr. 2,937,000
Net revenue of the pool	£65,125,000	£89,126,000	£105,568,000	£90,256,000

* This item includes the net revenue from ancillary businesses (such as steamboats, docks, hotels, collection and delivery of parcels), and rents, interest and other miscellaneous items

Note—The fixed annual sums payable by His Majesty's Government to the controlled undertakings amount to £43,469,000.

four years 1941-1944, which accrues to the Exchequer, has now reached the handsome total of £176,199,000, a sum which actually exceeds by about £2¼ millions the total amount paid to the controlled undertakings during that period, namely, £173,876,000. A summary of the financial results for the last four years is given at the foot of page 359.

An analysis of the record gross receipts shows that passenger receipts have more nearly approached parity with freight train earnings than in any previous year. Compared with 1943, passenger train earnings increased by over £8¼ millions to reach the figure of £194,066,000 and freight-train receipts rose by just over £5 millions and totalled £196,600,000. Miscellaneous receipts at £3,656,000 showed a decrease of £834,000, making the total gross receipts £394,360,000. No information is given as to the substantial increase in expenditure, but part of this is attributable to the increase in the war advance of 5s. a week which became effective from April, 1944. A further substantial increase in costs undoubtedly was due to the heavy rise in the price of locomotive coal, as during the year the Ministry of Fuel and Power authorised increases ranging up to 7s. a ton. As the main-line companies normally use something like 15½ million tons of locomotive coal annually, the reason for the concern which the railway Chairmen expressed at the recent annual general meetings regarding the rise in the general level of costs can be appreciated.

So far as the arrears of maintenance are concerned, it will be recalled that under the provisions of the control agreement, charges for maintenance (including renewals) are standardised on the basis of an average pre-war charge adjusted for variations in assets in service and in price levels and are borne as pooled expenses. The amounts in the trust funds set up under Article 19 of the agreement increased during 1944 by £32,322,000 in respect of arrears of maintenance and £1,201,000 in respect of interest (net) and at December 31, 1944, they totalled £125,760,000, compared with £92,237,000 on December 31, 1943, an increase of £32,523,000. This is a considerably higher increase than occurred in 1943, when the total sums in the trust funds rose by £24,702,000, indicating that because of shortage of labour the controlled undertakings are becoming increasingly unable to keep abreast of their maintenance requirements.

The Gotthard Railway: Strange Legal Problem

THE unusual circumstances in which the Gotthard Railway was built and has since been operated has taken a strange turn as a result of the wartime situation in Italy whereby, for many months past, there have been two *de facto* Governments in control in different parts of the country. The Royal Government in Rome, which has Allied support, naturally claims to be the *de jure* Government of the whole country, but Mussolini's Neo-Fascist Republican Government under German control is in fact the only one which has access to the southern end of the Gotthard Railway. A considerable part of the discussions between the British and American delegations on the one hand and the Swiss Government on the other, concluded in Berne on March 8, was devoted to the problem of transit traffic over the Gotthard line between Germany and Northern Italy. According to the spokesman of the Swiss Government, the Italian Government in Rome had informed the Swiss Government that it (the Rome Government) renounced officially all rights arising from the Gotthard Convention, and protested against that convention being kept in force in present circumstances. The international convention in question is that concluded on October 15, 1869, between Switzerland, Germany, and Italy, as the parties interested in the construction and operation of the Gotthard Railway. It provided for full freedom of transit over the Gotthard line in Switzerland of consignments from Germany to Italy or *vice versa*, and fixed the subsidies to be paid by the three countries towards the construction of the tunnel and its approach sections at Swiss francs 119,000,000, of which Germany contributed fr. 30,000,000.

The point of view maintained by the Rome Government is that the southern section of the Gotthard line does not now lead into "Italy," but into German-occupied Northern Italy. According to the Rome Government, coal and other commodities from Germany which cross Switzerland *via* the Gotthard line are benefiting Italy's adversary, as they are intended to support that adversary in its fight against Rome-controlled Italy. Commodities crossing from Northern Italy into Germany are regarded as being stolen from "Italy." That is why, says Rome, Switzerland (as a neutral country) should no longer tolerate this traffic. This viewpoint, the Swiss Government spokesman added, is interesting, and the Swiss Federal Council submitted this juridical nicety to the "crown jurists," the opinions of whom are divided on the matter. It has been found extremely difficult to resolve such a delicate problem in a short time, and this is why the Swiss Federal Council has preferred a practical solution.

In the southbound transit, the commodities conveyed (particularly coal and iron) are of vital importance to Switzerland. Leaving aside the legal question, therefore, the Swiss Federal Council regards it as inadmissible that trains loaded with coal and iron should cross Switzerland without Switzerland being able to obtain these raw materials. Therefore, even before the Berne negotiations were begun, the Swiss spokesman declared, the Swiss Federal Council had established a ratio between this transit traffic and Swiss imports. It had declared that the transit of coal and of iron would be allowed only in respect of like quantities as were supplied to Switzerland. This principle would have been applied from the beginning of the current year, but, as the imports concerned did not reach the envisaged volume, the transit of coal was stopped in the meantime and that of iron in the southbound direction was stopped as from March 9. The total monthly volume of other commodities in the southbound transit, will not be allowed to exceed that reached in February, 1945.

In respect of northbound transit traffic, the Swiss Government spokesman declared that it had not been discontinued in principle, but that it is allowed in so far as the proof is produced that the goods concerned have been acquired by way of normal commercial transactions and not in "an unusual way." In the northbound direction, too, the volume of traffic must not exceed that attained in February, 1945. Thus, Switzerland has provided limitations, but has not accepted the demand to stop the transit traffic entirely.

Subsequently, it has been emphasised officially that the Rome Government, although renouncing all rights arising from the Gotthard Convention, has not purported to rescind the Convention. The position at present taken by the Rome Government is said to be limited to the extraordinary circumstances prevailing while Northern Italy "is in the occupation of a power which is at war with Italy as represented by the Royal Government."

Norris Locomotives in England

MR. P. C. DEWHURST, Chief Mechanical Engineer, Central Uruguay Railway, has made a particular study of the Norris locomotive, and he offered the results of his research to the Newcomen Society. The manuscript and its many illustrations constitute a sizable book, far in excess of the practicable limits of a paper to a technical society. Accordingly, the portion relating to the Norris locomotive in England was extracted, and was formally presented to a meeting of the Newcomen Society at the Institution of Civil Engineers on February 14. The original plan, on which the author has been engaged for many years, is to give a complete account of the Norris firm of locomotive builders in the U.S.A., 1831 to 1869; the origin of its famous 4-2-0 type of engine; its hill-climbing records; the export trade with Europe established by the firm in 1837; the Norris-pattern locomotives built in England from 1840 onwards; those built similarly on the Continent; and the Norris influence upon locomotive practice generally. The present paper comprises an introduction and the following sections:—

Explanatory foreword.
A short account of the firm and its pre-*George Washington* locomotives,
What was the *George Washington* and how were the famous hill climbs accomplished.
Norris exports, preliminary as to quantities,
Norris locomotives exported to England—the facts,
Norris locomotives exported to England—myths and motives,
Norris pattern locomotives built in England for the Birmingham & Gloucester Railway—and conclusion.

Even this comprised some 14,000 words, together with numerous illustrations and seven appendices, and is thus far too long either to be reproduced under present conditions of paper shortage, or to be read at a single meeting of the Newcomen Society. The Council agrees with the covering letter of the author, who is in Uruguay, that it is "impracticable to cut down the text of the portion embracing the account of the English section without wrecking it." The author is expected back in England shortly, and it is hoped that some arrangement will be made for the publication of so interesting piece of research work.

Six-Wheel or Four-Wheel Bogies?

FOR long it has been a matter of controversy as to whether or not six-wheel bogies give smoother riding qualities to rolling stock than the four-wheel type. In earlier days the governing consideration generally was the length of the vehicle, and for lengths exceeding 55 ft. or so, six-wheel bogies were considered indispensable for British coaches. Another deciding factor was the length of locking and fouling bars used in connection with signalling, for the gap between the bogies could not be greater than the length of the bars, which on some lines did not exceed 30 ft. at that time, so that with long coaches the wheelbase of four-wheel bogies had to be lengthened, or six-wheel bogies had to be substituted. About 40 years ago, however, the G.W.R. upset all British precedents by introducing a number of 70 ft. vehicles carried on four-wheel bogies. At present the general standard for all British railways is to build stock up to 60 ft. long on four-wheel bogies, and stock over 65 ft. on six-wheel bogies. For a considerable number of years the L.N.E.R. has built no twelve-wheel vehicles, other than articulated sets carried on three bogies; the Southern Railway similarly has confined its construction to eight-wheel coaches; the L.M.S.R. mounts its 65 ft. 6 in. dining and sleeping cars on twelve wheels, and all other vehicles, other than articulated, on eight wheels; the G.W.R., as mentioned on p. 290 of the March 16 issue, has 52 dining and sleeping cars and long parcels vans on six-wheel bogies, and the remainder of its bogie stock is eight-wheel.

It is beyond dispute that the principal factors in smooth riding are the method of suspension and the quality of maintenance, and that both can affect the running in considerably greater degree than the provision of one axle more or less in the bogie itself. On not a few occasions, when travelling, we have found the riding of a twelve-wheel dining car compare very poorly with that of adjacent eight-wheel stock in the same train, but maintenance rather than design was probably responsible for the difference. In an article in the January 13 issue of our American contemporary the *Railway Age*, Mr. K. F. Nystrom, Chief Mechanical Officer of the Chicago, Milwaukee, St. Paul & Pacific Railroad, described some most interesting experiments that his company made in bogie design after the introduction in 1935 of the streamline "Hiawatha" trains between Chicago and Minneapolis, which require running speeds up to 100 m.p.h. daily for timekeeping. One of these tests consisted in recording the oscillations of a coach fitted with six-wheel bogies of conventional design; after a number of test runs, the centre pair of wheels of each bogie was taken out, and the load previously carried by these wheels was transferred by means of a special equaliser, 11 ft. long, to the outer pairs of wheels of each bogie. No further changes were made other than providing the remaining pairs of wheels with axles of larger diameter. The result of the test with the four-wheel bogies was to show that the coach had suffered no deterioration in its riding qualities, and that the eight-wheel coach with bogies of 11 ft. wheelbase rode no better than a similar vehicle carried on four-wheel bogies of the more usual 8 ft. wheelbase.

The Milwaukee tests have been very comprehensive. The coach used for the purpose, in one of the four "Hiawatha" trains, had one of the end vestibule steps removed, and replaced by an observation shelter, from which slow motion films were taken of the response of one of the bogies to each variation in the method of suspension. The car was reserved for the observers, and the recording appliances showed vertical, lateral, and longitudinal movement. Definite improvements have been effected in damping down vertical movement; but Mr. Nystrom confesses that as yet he does not consider that finality has been reached. In the latest Milwaukee cars, the equaliser springs have an oscillating frequency of 88 cycles per min., and the bolster springs of 59 cycles per min., and the last critical cycle of the bogie suspension, so far as has been observed, is at about 26 m.p.h., which is far below the normal running speed. In the tests, indeed, a maximum speed of 126 m.p.h. has been reached. The riding of the coaches has been improved in an almost direct proportion to the lowering of the oscillating frequencies of the springs.

Mr. Nystrom had considered a minimum of ¾-in. lateral clearance in a journal box essential until he came to England and inspected what he regarded as a very successful type of four-wheel bogie in use on our Southern Railway in which every effort had been made to do away with lateral clearance. Another matter at first considered as essential was to absorb the initial blows from the wheels by means of springs above or in the immediate vicinity of the journal box; but after making many experiments with helical, semi-elliptical, and volute springs, and with rubber cushions, the Milwaukee came back eventually to an equalised truck with helical springs located well away from the journal. Previously an attempt had been made to improve the riding obtained with elliptical springs by increasing their deflection, but finally they were abandoned in favour of nests of helical springs of large diameter, at each end of the bogie bolster. The weights of the experimental four-wheel bogies, without dynamos, varied from 8 tons 7 cwt. down to 5 tons 15 cwt.; it is now estimated that, with the use of high-tensile steel and of aluminium alloys, a pair of four-wheel bogies with the desired characteristics can be designed without greatly exceeding a weight of 11 tons 10 cwt. for the two.

In the search for improved riding qualities, the matter of noise was not neglected. One interesting experiment in this direction was the insertion, in the bogie bolster centre-plate of a rubber cushion 1 in. thick, bonded to a thin steel plate; in addition, the periphery of the centre-plates was insulated with ¾-in. thick rubber bonded to individual steel plates. Tests made over a period of 19 months, during which the bogies concerned were used under a dormitory car operating between Chicago and Seattle, showed that the rubber had sufficient rotating flexibility to take ordinary curves—which on this mountainous route are as sharp in places as 9 ch. radius—and had kept the steel surfaces out of physical contact, so reducing wear as well as eliminating noise. As much as possible has been done by the use of rubber, between the component parts of bogies, to cut out noise caused by metallic contacts, and, as just mentioned, to reduce or eliminate wear. The main fact that emerges, however, is that after prolonged experiments directed towards the improvement of riding, the four-wheel bogie, even with vehicles up to 80 ft. in length and 10 ft. wide, retains an unchallenged position.

"Tourist Agents"

WHAT do the words "tourist agents" that appear in print so often in Hansard and the daily newspapers mean? The English language, away from basic, produces, as a lively and living language should do, many queer conjunctions of words. But tourist agent as a name of an industry and one in use for who knows how long is difficult to define, although we all know what tourist agents are and have some idea what their business is.

Agent is a word that gives many legal men a headache and some a fortune. It can be said to be the description of one acting on behalf of another. How does that fit in with our view of a tourist agent's work? He acts as a seller of passenger tickets for railways, shipping lines, air lines, and road operators. Perhaps he is purely "acting on behalf of another" when he sells us a return ticket to Brighton, but how often is that all he does? With a rail ticket goes a hotel reservation and perhaps, too, a reservation on a local sightseeing tour by coach in the South Downs. Sometimes these arrangements are built up like this over the counter as you or I tell the clerk what we want to do and ask for suggestions and improvements. Is the clerk acting for the passenger in finding the best hotel accommodation he can of the kind wanted, or is he acting for the hotel in putting the attractions and facilities of that hotel before the public, or both?

Our discussion over the counter may result in the clerk offering a week's or a fortnight's tour already set out in a programme inclusive of hotel, sightseeing excursions, bathing beaches and all: or, in other words, an inclusive tour. Is the tourist agent still an agent, or has he turned himself, chameleon-like, into a principal selling his own commodity. His is the tour, advertised as "Chas. Snook & Co.'s Inclusive Tour to Brighton."

Now "tourist." A word as uneuphonious as that presidential creation, normalcy. A tourist is easy to understand, one who tours: be it in the Grand Tour of bygone days or a week's annual holiday away from home and work. In the title, however, it looks adjectival, and as such it doesn't seem to make much sense unless it means "a tourist's agent." That as we have seen does not cover all that it should mean. No-one seems to have invented a better name for this profession; Travel Organisers; Tours Operators; Rail and Shipping Agents. They all fall short of what public sanction puts as the meaning of Tourist Agents.

Much of the verbal difficulty arises perhaps out of the comparative novelty of the trade, profession, or calling. It is developing fast, has developed fast since the opening of the century, and faster still since 1920. Few of the well-known concerns have limited themselves to work as pure agents. Most have owned or rented hotels at one time or another; some have ventured into holiday camps or the chartering of luxury liners. Aeroplanes or road coaches are hired for a time or a trip as a normal matter of business. And so the changes go on as public taste requires or is lead to prefer, and shareholding in a giant air corporation seems nothing incongruous to a mere agent touristic.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Railway Research

London. March 31

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—On reading the article headed "Refrigerated Transport by Railway: Some Limitations and Possibilities" which appeared in your March 23 issue, I could not help wondering whether railway research is being directed to appropriate matters. Why should railway companies spend time and money on research into insulation and refrigeration? Surely outside wagon builders, with the aid of scientific advice from Government and other research bodies, could produce vehicles to meet any specification drawn up by the railways. Firms like I.C.I. would, I imagine, be happy to co-operate in any experiments which would extend the use of Drikold and similar preparations.

In my time in the Goods Department we had (*a*) ventilated meat, fish and fruit vans; (*b*) refrigerated meat vans; (*c*) insulated vans which were designed to keep their contents at an even temperature and were not serviced with ice; and (*d*) steam-heated banana vans. We got along well with that equipment, but, if it does not meet present-day requirements, the wise and economical course would be to remit the problem of effecting improvements to outside specialists in this particular field.

Yours faithfully,

RETIRED GOODS MANAGER

Rome-Naples Train Service

Hatch End. March 23

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The note on the Rome-Naples train service on page 218 of your March 2 issue, in which a correspondent was quoted as stating that before the outbreak of war the distance of 133 miles between Rome and Naples by the Formia route was covered in 2½ hr., overlooked the three-car streamline *rapidi* trains on the Milan-Bologna-Rome-Naples service, which were considerably faster. These were booked non-stop between Rome (Termini) and Naples (Mergellina) by the *direttissima* line, 130·5 miles, in 108 min. southbound and 110 min. northbound, at start-to-stop average speeds of between 72·5 and 70·5 m.p.h. For the additional distance to and from the Piazza Garibaldi Station at Naples the allowance was 10 or 11 min., making the overall time for the 133 miles approximately 2 hr.

For several of the heavier trains the timetable allowance was 2 hr. 11 min. from Rome (Termini) to Naples (Mergellina), involving practically a mile-a-minute average, and the northbound run was allowed 2 hr. 15 min. After the addition of the time between Mergellina and Piazza Garibaldi, the total was 2 hr. 22 min. to 2 hr. 27 min. Non-stop runs between Rome and Naples Central, by the Aversa route south of Villa Literno, were allowed between 2 hr. 28 min. and 2 hr. 42 min. It is with these times that the 3¼-hr. schedule of 1942, and the 12-hr. run of January 21, should be compared.

Yours faithfully,

CECIL J. ALLEN

[Apparently our correspondent would be in agreement with Mr. Allen's concluding sentence, as this is the course he adopted. The writer was an official of the Italian State Railways and compared like with like, ignoring (but not overlooking) the ultra-high-speed streamline trains which to-day have no counterpart.—ED. *R.G.*]

District Railway Passenger Stock

74, Claverdale Road,
Tulse Hill, S.W.2. March 27

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—With reference to the letter from "Omega" in your March 23 issue, the passenger stock used on the District Railway before electrification consisted of sets of four-wheel compartment coaches. The last of the sets to be built was fully described in the *Locomotive Magazine* for 1901. It comprised nine coaches, of an approximate length of 244 ft. overall, seating 64 first and 320 second and third class passengers, a total of 384. This class of stock afforded little or no scope for the use of air-worked doors.

The introduction of the "open" type of car on the electrified District line appears to have been due to the fact that the electrification of that line was in the hands of an American "rapid transit" engineer, and I think I am correct in saying that these cars were based on a design then in use on the Boston Elevated Railroad. The cars built for the electric service on the South Harrow line in 1903 had open ends with iron swing gates and centre doors, but the cars used on the services to and from Mansion House, Whitechapel, etc., in 1905 had end and centre doors, the former were marked as exits and the latter as entrances, an arrangement which the travelling public ignored. The air-worked doors proved unsatisfactory in several respects and were converted for manual operation by the passengers after the post-electrification financial position showed that economy in working costs was an urgent necessity. This economy was mainly effected by reducing the number needed on the trains to one man per car, that is, on a six-car train there was a motorman, a guard and four "gatemen."

Apart from the District and Metropolitan Railways the London & North Western was the only railway running London suburban services to make use of the "open" car. These vehicles were introduced on the services which the L.N.W.R. electrified in 1914 and 1916, and in sets of three, with an overall length of 179 feet, provided only 166 seats; a poor result compared with the Great Eastern "six-a-side" stock which provided 768 seats in a set of 15 four-wheelers with an overall length of 430 ft. It was evidently this great disparity in seating between "open" cars and compartment coaches which deterred other railways with London suburban services from adopting the former, and it is to be noted that both the Metropolitan and L.M.S. Railways reverted to compartment electric stock after about 1925.

It may be as "Omega" alleges that it is more convenient to have to stand in an "open" car as used by London Transport rather than in a compartment, but the following table will show that if the "open" car was introduced in place of the compartment stock now so widely used on London suburban routes the proportion of standing passengers would be very greatly increased:—

	Compartment stock		Comparable train of L.P.T.B. "open" cars‡	
	Overall length	No. of seats†	No. of cars	No. of seats
Steam: *	ft.			
District set of 9 four-wheelers, 1901	244	400	5	210
G.E.R. set of 15 four-wheelers* ...	430	768	9	378
L.N.E.R. 10-coach articulated bogie set*	450	888	9	378
Electric:				
L.M.S.R. 3-coach set*	184	288	4	168
Southern 3 coach set	194	250	4	168
" 9 " unit	502	690	10	420
" 4 " set* ("4101" class)	257	468	5	210

* "Six a side" stock. † On "all third" basis.
‡ On basis of cars 51 ft. long with 42 seats.

I may add that on one occasion some years ago I was travelling on the District line and chanced to ride in one of the old pattern motor cars which seated 44 passengers on longitudinal seats. Out of pure curiosity I counted the number of standing passengers: there were seven, which, added to the number of those seated, gives a total of 51. Now a car of the same dimensions with compartments would have given seven passenger compartments and one for the motorman, with a seating capacity of 70, thus affording a seat for the whole of the 51 passengers and 19 spare seats in addition. As a mere observer of suburban traffic it has often occurred to me that many of the complaints about overcrowding on trains worked by the District, Metropolitan and London Transport "open" cars were not so much complaints of lack of accommodation as of lack of seats.

Yours faithfully,

G. T. MOODY

L.N.E.R. Standard First Class Coaches

London & North Eastern Railway,
H.Q.1 (*via* Hitchin). March 28

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Referring to Colonel Kenneth Cantlie's letter published in your March 16 issue, the depth of the buckeye coupler is such that the conditions described by him are not only most unlikely to occur but, as far as this company is concerned, have never been experienced when mishaps have taken place. Whatever device is fitted, damage of a serious kind cannot be avoided when collision occurs at comparatively high speed. In the three major mishaps in which this company has been involved over a period of twenty years, that at Retford in 1923, at Welwyn in 1935, and at Castlecary in 1938, telescoping has been almost completely absent wherever the buckeye coupler was fitted.

In the Ministry of Transport report on the Welwyn mishap it was stated:

"With regard to the behaviour of the rolling stock in this serious collision, the outstanding feature was the service rendered by the buckeye coupler, as a safeguard against telescoping, in its application, with Pullman vestibules, to heavy-steel underframes. The results indicated that this coupler, with its rubber buffering,

was instrumental in preventing a heavier casualty list in the rear coaches of train No. 825A and in the leading coaches of No. 826. The last vehicle, No. 141, of the former train bore the main shock, and it would obviously be impracticable to provide any type of coach to resist forces of the magnitude which must have been involved. Further, the suitability and security of this coupler were illustrated by the fact that the intermediate vehicles of train No. 826, which were not so fitted, became separated and wrecked, and were responsible for the partial telescoping of the third coach of this train."

As to Colonel Cantlie's remarks of experience in the U.S.A. relative to wood-bodied and heavy steel cars, it should be pointed out that the buckeye coupler is still retained as standard in the U.S.A. and was fitted to the super-light-weight trains which were put into service immediately before the outbreak of the present war.

Yours faithfully,
GEORGE DOW,
Press Relations Officer

Building Wagons to Last Too Long

March 29

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The Engineering Industries Association recently reported on the possibility of helping the building industry to meet the nation's housing programme, and in its report they made a very significant remark, as follows:—

"They have a farther vision which they illustrate by a motor trade analogy. The 1910 motorcar was regarded, they say, as a capital purchase having an indefinite life, while the 1940 motorcar was almost inevitably an article consumed out of income in two or three years upon a small and more or less standing capital deposit. We are driven by the astonishingly rapid development of mass production technique towards a concept of a house having a specially limited life, financed in a similar way. The social benefits would be enormous. The occupier could have a house of a size and character suited to changing income and requirements and never again need slums come into existence automatically as they inevitably will so long as house property is regarded as a permanent capital investment. The long-term result will be the development of an industry providing a constant flow of ever-improving engineer-built houses."

I would contend that if we translate the words motorcar or house, into the word railway wagon, we should find an exactly similar picture. I have long thought that our policy of designing and building wagons to last—so to speak—for ever, is economically unsound, and that in the long run it would be a far better proposition to provide the cheapest and simplest form of wagon, cutting out all repairs, and scrapping the wagon with the possible exception of such things as wheels and axles, say at the end of 15/20 years.

In these days when there is such speedy progress, it is reasonable to assume that inside that period a better design may be brought out, including probably a demand for 20-ton wagons as the terminals are made suitable for such vehicles, thus making the existing wagon stock obsolete, although far from worn out.

The analogy between the slum house and what I would call slum wagons seems to me a correct one, precisely representing the wagon position in this country today, and is worthy of the very serious consideration of all those who are responsible for these matters.

Yours faithfully,
RAILWAY SHAREHOLDER

War Bonus on Railway Pensions

Cheshire. April 4

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The letters you have published on this subject have been read with much interest, especially by those about to retire or already in retirement. At one time retirement was something to look forward to in anticipation but not under the present conditions with the decreasing purchasing power of the £.

Many railwaymen like myself have worked long hours and on Sundays without any recompense. As the Government has benefited by millions of pounds from the railways' earnings, it would be at least some measure of recognition of their work in this war, if the Treasury would make a grant to the Superannuation Funds to permit an increase of benefits, if only for a period until things became easier, say the payment of the war bonus to superannuitants.

The sum involved would not be very large and would certainly do away with a great deal of anxiety for those retired and about to retire. For many years saving for old age has been out of the question for those with a fixed salary. No doubt others will have suggestions as to how this could or should be done.

Yours faithfully,
59

Publications Received

No. 8-ET Locomotive Brake Equipment. Wilmerding, Pa. (U.S.A.): Westinghouse Air Brake Company. 7 in. × 4¾ in. 204 pp., 78 illus., and 11 folding plates.—Within the compass of this compact booklet, dryly described as "Instruction Pamphlet No. 5032-1, July, 1943," by the company, lies a mine of information on the latest form of modern air-brake equipment. There is a tendency in this country, due, no doubt, to the general use of vacuum brakes on steam-operated services (with the notable exception of the Great Eastern suburban sections of the L.N.E.R.) to get out of touch with the latest developments in compressed-air brakes. This is regrettable, for the latter system, backed by the unrivalled experience and vast resources of the Westinghouse company, has been raised to a very high status; and with the recent trend towards much higher running speeds which was so noticeable during the 1930s, a great deal of important progress has been made. It is indeed a far cry from the "Quick-Acting" brake developments of 1887 (then regarded as the *ne plus ultra* of scientific braking methods) and the equipment described in the present booklet. The No. 8-ET equipment may be applied to steam, electric, or diesel locomotives, whether for fast goods, through high-speed passenger, suburban, local, shunting, or heavy long-distance mineral trains. One of the great advances over the form of Westinghouse brake at present used on British steam-operated trains is that the brake cylinder pressure can not only be gradually built up, but also gradually released at will. This is a valuable feature over a route where long heavy gradients occur, and it also has certain attractions in intensive suburban working. The "heart" of the new equipment is the distributing valve, which at last has superseded the triple valve, the masterly device which for so long has been the vital feature of the earlier patterns of air brake; it co-ordinates the two separate braking circuits—the "automatic" and the "independent"—involved in the No. 8-ET equipment. Naturally, the improvements which the latest form of air brake brings with it are not secured without some additional complication, but the makers by this time have accumulated so much practical experience in this highly-specialised field that it can be taken for granted that the actual layout of the new brake is the most effective (consistent with practical operating considerations) that could be devised with present-day resources.

"English Electric" Moulded Fuse Units.—An illustrated publication No. FG/110 has been received from the English Electric Co. Ltd., Stafford, giving details of a recent production, "moulded fuse units type 'SM' with precision contacts. These units are available in two rating" 30 A. and 60 A. each in four types, (1) busbar mounting, (2) front connection, (3), back connection, (4) front/back connection, and accommodate the "English Electric" type "T" high rupturing capacity cartridge fuse links which have been A.S.T.A. certified to comply with B.S. 88 : 1939, category of duty 440 a.c. ·4 (namely 25,000 kVA at 440 v., 3 phase). A feature of the busbar type is that the contact and fixing screw centres are common to both ratings. This enables 30 A. fuse units to be spaced so that they may be replaced easily by the larger size should occasion arise. The publication includes full dimensions of the units, also drilling templates which will assist materially prospective users. Copies of this publication can be obtained from the Fuse-Gear Section, English Electric Co. Ltd., Stafford.

A Study in Vibration. By R. G. Manley, B.Sc. Silentbloc Limited, Victoria Gardens, Ladbroke Road, London, W.11, who will forward a copy to readers of *The Railway Gazette*, on request. 10 in. × 7½ in. 31 pp. Illustrated. Vibration problems are confronting engineers to an increasing extent and this useful book deals with the main principles involved. Although a large part of the contents is drawn from the specialised field of aircraft engineering, it is considered that the scope of the principles described is in no way restricted. The book includes illustrations of the anti-vibration bearings and mountings manufactured by Silentbloc Limited.

Fusion Welding.—We have received from the Suffolk Iron Foundry (1920) Limited, Stowmarket, brochure No. 3239.A. describing and illustrating the fusion-welding process which it uses to repair cast-iron cylinder heads, blocks and valve seats. Welding is the logical means of repairing fractured cast iron and for this purpose oxy-acetylene fusion welding using super-silicon or ferro-silicon cast-iron filler rods can be carried out successfully provided proper facilities are made for pre-heating. This brochure may be obtained on application to the Suffolk Iron Foundry (1920) Limited, Stowmarket, at a cost of 1d.

The Scrap Heap

Transporting the Biscuit

Messrs. Blank & Co. send their compliments to all old and new friends and assure them that, following the removal of all zoning and other restrictions after final victory, their ever-popular biscuits will be on sale again everywhere. [But not if the bureaucrats have their way.—Ed. *R.G.*]

* * *

In the Air

We have heard the Government's civil aviation policy irreverently compared with the Athanasian Creed, as offering a new but equally subtle version of the mystery of the Trinity, three in one and one in three.

* * *

Rails Run by State?

The Daily Express Centre of Public Opinion has completed its second investigation into the question of State ownership of the railways.

Once again there is a majority in favour of State ownership—a view with which *The Daily Express* does not agree.

When the question was first asked last July the result was :—

In favour	59 per cent.
Against	30 ,,
Don't know	11 ,,

This week the public replied as follows to the question : "Would you approve or disapprove State ownership of the railways ?

Approve	57 per cent.
Disapprove	35 ,,
Don't know	8 ,,

From "The Daily Express"

* * *

G.W.R. or L.M.S.R. ?

Every railway receives amusing letters from time to time and the following is a recent example received by the General Manager's Department of the G.W.R. "When travelling on the 6.30 p.m. train from Paddington to Exeter on March 13, I was interested to note that the coach in which I was travelling was painted in the Great Western livery, the fittings and notices were those of the London Midland & Scottish Railway. The fact led to discussion among the passengers whose theories ranged from a suggestion that the coach might have become so dirty in use as to be unrecognisable, and to have been repainted in your colours by mistake, to the idea that we might be accessories after the fact to the receiving of stolen property. Perhaps you could tell me the real reason."

Hamm (and Eggs)

(Hamm, the great German Marshalling Yard, is now out of use)

The Yardmaster of Hamm,
Thanks to our "Uncle Sam,"
Need no longer patrol his yard ;
For its rails are all smashed,
All its sidings are bashed,
And all of its junctions are barred.

When our boys of the air
Dropped their bombs over there,
Yardmaster of Hamm was quite scared ;
To get rid of his trains,
Was a tax on his brains,
And move them—he would not have dared !

Now his mind is at rest,
For our boys did their best
And Hamm is no more on the map ;
So tell the good tidings—
They've straddled its sidings,
And "Monty" will soon close the gap.

W. E. N.

* * *

Signal Occasion

A crowded troop train, coastward bound, stopped at Woking, Surrey, today. On one of the carriages was chalked up "To Berlin." After some delay, one impatient Tommy stuck his head out of the window, pointed to the chalk mark and yelled to the porter, "Hi, tell the engine-driver to get a move on, will you? We'll be late for the ruddy party."—*From "The Evening News."*

* * *

100 YEARS AGO

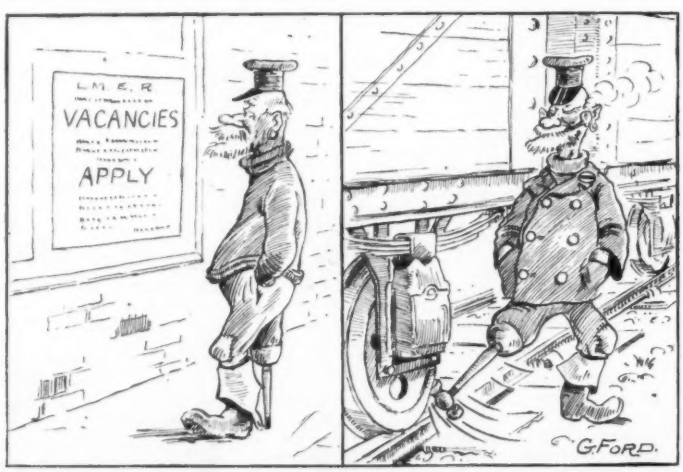
[*From* The Railway Times, *April* 12, 1845]

SITUATION ON A RAILWAY or WHARF.—A Doucur of £20 or upwards will be given by a Gentleman of active business habits and integrity for an introduction to Permanent Employment on a Railway or Wharf, either in the office or otherwise. References of the highest respectability, and security to any amount. Address, pre-paid, G. W, care of Mr. Jeffery, Stationer, George-yard, Lombard-street.

Just published.

THE RAILWAY DIRECTORY, for 1845 ; containing the names of the Chairmen, Deputy-Chairmen, Directors, and principal Officers of all the Railways in Great Britain, compiled from original sources. By Henry Tuck, author of "*The Railway Shareholder's Manual*," &c. Paper cover, 1s. ; Cloth gilt, 1s. 6d. Effingham Wilson, Royal Exchange ; Railway Times Office, Fleet-street ; and all booksellers.

FOREIGN AND MID-WEEKLY RAILWAY PAPER.—The RAILWAY HERALD will be published on Thursday morning next, the 17th of April, and in every succeeding week, price 6d., stamped, and contains copious and exclusive information as to Foreign Railways. Published by Messrs. Kelly and Co , 19 and 20, Old Boswell-court, Temple-Bar, and to be had of all News enders.



Sailors don't care

New Use for Barrage Balloons

The Evening Standard has invited its readers to say what they would do with Hitler. One of our readers thinks the Nazi leaders should not be hung or shot. Hitler, Goebbels, Himmler, Ribbentrop, Goering, the German Generals and thousands of war criminals should be attached to barrage balloons and left suspended in the air over bomb damaged towns, in full view of the public. They would have several days, and in some cases weeks in which to contemplate and regret their evil deeds before they finally expired. On the appointed day they would be fairly apportioned for suspension over bomb damaged towns, London, Coventry, Glasgow, Manchester, Dover, Rotterdam, Paris Warsaw, Moscow, Stalingrad, Copenhagen, Oslo and scores of other places.

* * *

Anti-British Japanese Propaganda Four Decades Ago

Once upon a time a British railway reconnaissance party, accompanied by the British Consul, was travelling in a part of China that shall be nameless. The members of the party woke up one morning in the city they were visiting to find its walls profusely bill-posted with the following artistically-worded placard:

"To our brothers in ——— [name of city] "
"Get ready your rifles and sharpen your swords;
The British are going to build a railway;
Our ——— (province) is to be blotted out.
They have used the pretext of travelling, and made a secret survey and placed marks.
The (Chinese) Government is not of our blood and family;
It looks on our people as grass and reeds.
The Customs are in foreign hands under false pretences,
And they suck the marrow out of the district.
The Consul is still more despicable;
He accuses people and perverts justice;
He uses every pretext to interfere.
The power and authority of the Government is destroyed.
Our country is independent;
How can we put up with this aggression?
Let the people of ——— in their hundreds and tens of thousands
Unite to drive them out;
Let each use all violence,
And tear them to pieces like wool."

As this was the work of Japanese-educated reactionaries, and as the local inhabitants were peaceable citizens and had no use for them, nothing happened.

* * *

Tailpiece

(Complete stripping and re-erection of locomotives is effected by the L.N.E.R. in 16 days)

There are none too many engines
For the work they have to do,
And a lot of them are ancient,
And the newly built are few.

There are none, O none too many,
And when one of them is brought
To be laid up on occasion,
Then the process must be short.

It is handled and inspected,
And its weaknesses made plain,
Till the ailing locomotive
Is quite itself again.

To the men of the repair shop
Be the guerdon and the praise.
They can strip and re-erect it
In a fortnight and two days.

E. C.

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

WESTERN AUSTRALIA

Central Sub-Station for Tramways

For some years trouble has been experienced through insufficient power on the Perth metropolitan tramway system, on account of the increased loading imposed and heavier traffic, extensions, and other reasons. This has reduced the speed possible during peak periods, and, in turn, the number of trips of each car. Considerable trouble and expense has been involved, also, through damage to postal telephone cables by reason of electrolysis due to tramway return current being conducted back along the Postmaster-General's cables (involving in one case the breakdown of the main trunk cable).

To remedy the position so far as additional power was concerned, and to reduce to a minimum the damage from electrolysis, approval was given in 1939 to the provision of a central sub-station in the Perth city block at an estimated cost of £27,000. Tenders for the necessary electrical equipment were called during that year, and were received at the beginning of 1940; and a tender from an English firm was accepted in February, 1940. The war delayed deliveries considerably, and, although portions of the equipment were received from time to time, it is only in recent months that sufficient has been available to enable trial runs to be carried out. A limited service is now being given through this source, and it is expected that a complete service will be available at an early date.

The time which has elapsed since the proposal was mooted has accentuated the difficulties originally experienced, and considerable relief will be afforded to the Perth tramway service by the new sub-station when it is in continuous operation.

SOUTH AFRICA

Railway Finances

The working of the railways, harbours, steamships and airways during December, 1944, resulted in a net surplus of £145,315. Passenger traffic revenue, which amounted to £1,414,508, was not only the most interesting feature of the month's operations but also constituted a new record. Coal traffic was maintained at a high level but goods and harbour earnings fell off appreciably. The total revenue for the month was £5,194,109, and was below the record of £5,374,874 of the previous month. The accumulated net deficit for the nine months April to December, 1944, was £59,290. This figure compares unfavourably with the surplus of £671,998 reflected in the results for the corresponding period of the previous financial year, expenditure having advanced by £3,975,548 as against an improvement of £3,244,260 in revenue.

Underground Railway

The first underground railway in the Union, the Village Main-Faraday Street line in Johannesburg, is nearing completion. More than 80 per cent. of the work has been done and a start will be made in the near future with the new terminal station building, electrification, and signalling work. The tunnel for the line is 1,487 ft. long and comprises a framed reinforced concrete structure which can accommodate two tracks inside, and two surface tracks along the top. Numerous engineering difficulties were encountered during the construction of the tunnel, the chief of which was the necessity for keeping traffic running on the existing surface track. This had to be supported by temporary trestles and girders while excavation and concreting was being done. The problem was further complicated by a number of sidings branching off the feeder track. Considerable alterations to Municipal and other power and water services had to be undertaken. The construction of the tunnel required the excavation of 47,700 cubic yards of soil and rock, and the placing of 13,100 cubic yards of concrete and 750 short tons of steel reinforcement.

CANADA

C.P.R. Rolling Stock Improvements

The Canadian Pacific Railway is carrying out a number of improvements to freight and passenger rolling stock at Montreal. Stabilised bogies are being fitted to 300 freight refrigerator vans and spring snubbers to 1,500 other freight vans. Manually-controlled heating is being replaced by a thermostatic system in 16 dining coaches. This work, which is being done in the Angus Shops, is part of the plan to bring existing vans up to the standard of the new stock which will be added when war conditions permit. The stabilised bogies take out vertical shocks and the roller devices, which are part of the bogies, eliminate a good part of the lateral oscillations. Nearly 200 vans have been improved in this manner to ensure smooth running for consignments of easily damaged fruit, vegetables and other perishable commodities.

The spring snubbers for freight stock are fitted to coal and gondola wagons as well as to box cars: some 1,500 vans of all types have been so equipped. In the dining coaches the new thermostatic heat control will simplify the maintenance of uniform temperature when doors are opened in cold weather. There will be no draughts along the floor because the heat in the passageway also will be automatically controlled. This dining car improvement is one of several completed by the C.P.R. in recent months, including the rebuilding of the coaches "Blomidon" and "Bear River," each of which accommodates 40 persons, four more than the usual number.

UNITED STATES

Southern Pacific C.T.C. Installation

On the Southern Pacific, centralised traffic control was brought into operation recently over 72 miles of the so-called "Sunset Route," which extends for all but 2,500 miles from San Francisco through Los Angeles to El Paso and New Orleans. The section concerned begins at Colton, 57 miles east of Los Angeles, and extends to Indio, with a single control machine located at Beaumont, 23 miles east of Colton. Previously it was customary to issue 100 to 125 train orders daily on the Colton-Beaumont length, and as many as 180 on the Beaumont-Indio section; and at times it was impossible to issue these orders fast enough to cope with changing conditions on the single track, so that traffic was delayed.

By the installation of c.t.c., the average running time of westbound freight trains between Colton and Indio has been reduced from 8 hr. 26 min. to 7 hr. 9 min., and of eastbound from 7 hr. 2 min. to 5 hr. 27 min. Beaumont, 2,559 ft. above sea level, is a summit approached from the west by 23 miles of 1 in 67 grade, and from the east by 20 miles at 1 in 53, so that a good deal of banking assistance is needed. The installation of c.t.c. has reduced the round trip time of helper locomotives between Colton and Beaumont by 60 min., and between Indio and Beaumont by 92 min. An ingenious feature of the track arrangements at Colton has been the laying in of a "balloon" track, round which the helper locomotives run when returning from Beaumont, so reversing themselves without the time needed on a turntable.

C.T.C. Installations in Progress

Further c.t.c. installations are in progress on other railways; the Union Switch & Signal Company is providing materials to equip the Chicago, Milwaukee, St. Paul & Pacific Omaha main line over 47 miles of single track between Mendota and Fairbault, Minnesota; and the Chesapeake & Ohio is being equipped over the 44 miles between Strathmore and Greenway, Virginia. In connection with the latter installation, the control machine is to be at Richmond, Virginia, 70 miles distant from the nearest point on the section concerned.

Improving Locomotive Facilities

An improvement scheme at Bellevue, Ohio, estimated to cost $1,600,000, has been put in hand by the New York, Chicago & St. Louis Railroad, or "Nickel Plate," as it is usually known. It includes a new engine roundhouse, with stalls for 18 of the largest locomotives in service; a machine shop 140 ft. by 120 ft., with the latest types of machinery and equipment; boiler-house and incidental equipment; and relocation of the westbound marshalling yard.

Another scheme is that of the Norfolk & Western Railway for Williamson, West Virginia, where a new brick and glass block locomotive servicing building is to be built, 165 ft. by 60 ft., with two 135-ft. inspection pits, and a three-track concrete engine-washing platform, 140 ft. long, with ash-handling facilities, to serve six tracks. Ancillary improvements are to be effected, including the moving of a 100-ft. turntable and the moving of certain existing buildings. Locomotives of the Pocohontas and Scioto Divisions are turned, serviced, and repaired at Williamson, and the improvements are expected to save 456 locomotive-days a year.

PERU

Proposed Railway Construction

A proposed railway from Cuzco to Iquitos would be approximately 620 miles long and would represent a captial investment of $15,500,000. It would leave Cuzco, pass down the valley of the Urubamba, and continue east of the Ucayali River to Iquitos. It would supply a new line of penetration into a potentially rich mineral, timber, and tropical area, and supplement the Chiclayo-Maranon highway in northern Peru and the Lima-Ucayali highway in the central region. The railway would also supply transport facilities to link southern Peru with the river system on the eastern slopes of the Andes.

Railway construction on the Cuzco-Santa Ana Railway has proceeded beyond Machu Picchu. The line may be extended to the Sepahua River and terminate at the town of Requena or Tamshiyaco.

There is the possibility that a branch railway will be built from the mouth of the Sepahua River to the River Madre de Dios, opposite Puerto Maldonado, across the Isthmus of Fitzcarrald and the drainage divide of the Tres Amigos and Tahuatimano Rivers.

Australian Gauge Unification

The State of Victoria to reduce its gauge from 5 ft. 3 in. to 4 ft. 8½ in.—Seven-year plan

NOW that the long-debated standardisation of track gauge throughout the Australian continent has been accepted (as a result of wartime experience) as a matter of Commonwealth policy, the various State railway administrations are actively considering the steps which they will need to take in order to implement such gauge unification. The adopted standard is that of 4 ft. 8½ in., which already is used throughout the State of New South Wales; on the Commonwealth Trans-Australian Railway; and on the "Uniform-Gauge Railway" to Brisbane in Queensland.

Railways in the Melbourne neighbourhood

By far the most complicated gauge conversion will be that of the important group of broad-gauge (5 ft. 3 in.) railways in the State of Victoria and the adjacent portion of South Australia, shown on the map on page 367. Plans are now being made by the Victorian Railways Administration for the conversion of its system to the standard-gauge of 4 ft. 8½ in. It is expected that the conversion of this State will occupy seven years, consisting of a preparatory period of four years, followed by an actual conversion period of three years.

The work, as visualised by the engineers engaged in planning it, will involve the continuous employment of some thousands of men in addition to the normal staff; and will demand well-considered measures to reduce to the minimum the inevitable dislocations and interruptions. The difficulties in this State will be increased by the necessity for country services to run over some of the busiest electrified suburban routes. It is not expected that any line will be closed for more than a week, that period being the maximum allowed for the conversion of branch lines. The planning provides for the conversion of main lines during week-ends. The first task in the programme will be the construction of new standard-gauge locomotives and rolling stock. A storage yard with standard-gauge connection to the shops will have to be provided, and temporary workshops at the Jolimont-East Melbourne side for the conversion of electric rolling stock are also included in the scheme.

To enable the new and converted rolling stock to be routed out of Newport, a standard-gauge line duplicating the existing line will be constructed from Newport to Sunshine; the line from Albion to Broadmeadows will be converted; and a third rail will be provided between Sunshine and Albion, and between Broadmeadows and Somerton. The purpose of these provisions is to ensure a through standard-gauge route for the rolling stock required for the North-Eastern main line and branches, including the Somerton-Coburg-Spencer Street line, which will be converted as a preliminary to the conversion of the Melbourne-Albury main line that connects at the latter place with the New South Wales Government Railways to Sydney. With the conversion of the North-Eastern route, obviously an early consideration because of its connection with the standard-gauge service from Albury to Sydney, passenger trains from Sydney will run right through to Somerton, and thence *via* Coburg to Spencer Street, Melbourne. Goods trains on the North-Eastern line will reach the City *via* Broadmeadows, Albion, and Sunshine; thence by standard-gauge to West Footscray; and by a third-rail mixed-gauge goods line to South Kensington. This will enable the existing electrified service between Essendon and Sandringham to remain unconverted until the end of the whole programme, a necessary consideration because of the need for retaining a broad-gauge connection over the Flinders Street Viaduct for the Gippsland goods trains.

After the North-Eastern lines and branches are complete, the following groups of lines and branches will be converted in the order indicated:—

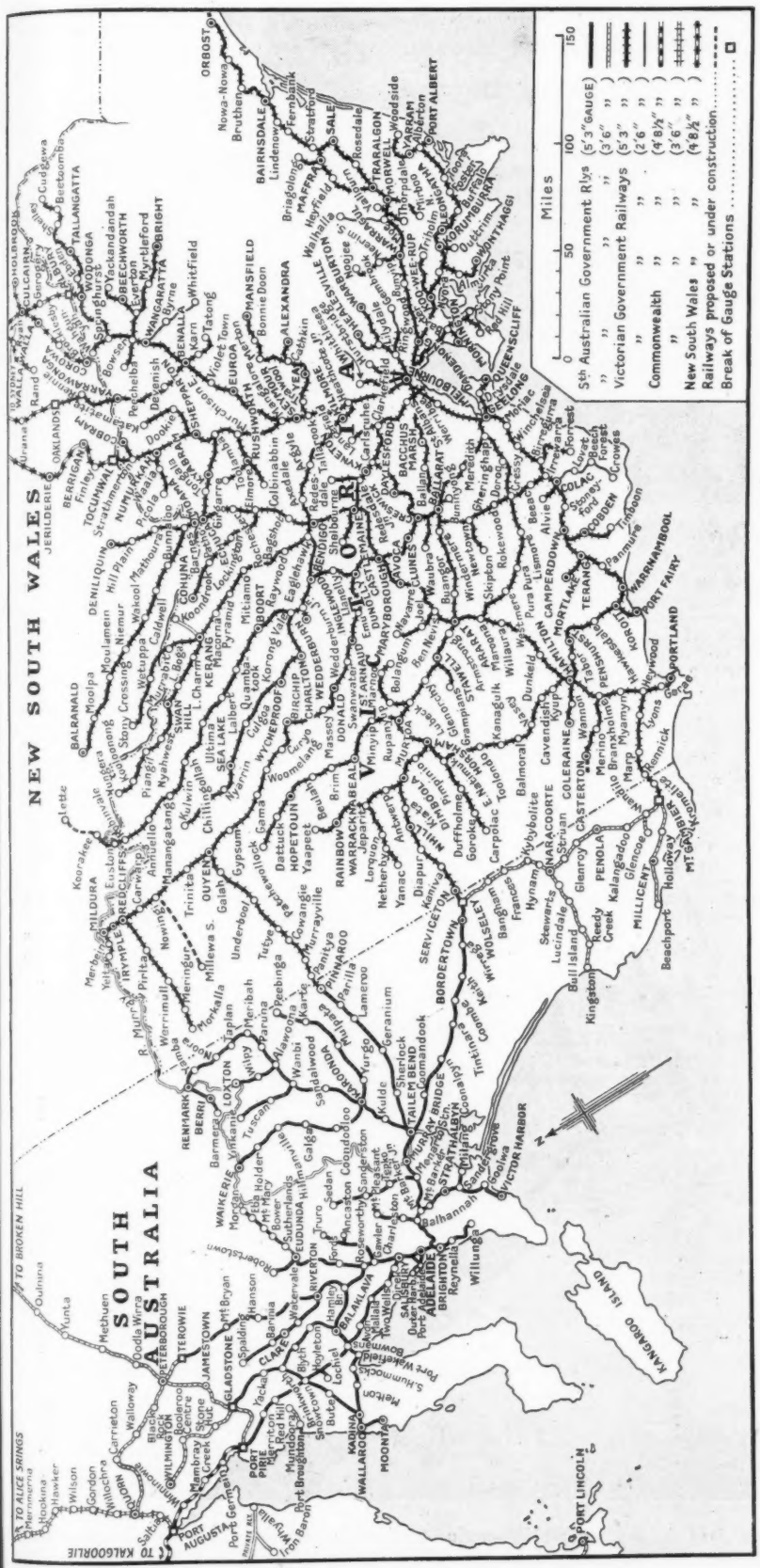
1. Hurstbridge and Whittlesea lines, with the connection from Clifton Hill to Royal Park.
2. Goulburn Valley and Balranald line and branches.
3. Sunshine to Bendigo, Echuca, Kerang, and beyond, and branch lines to Lancefield, Daylesford, and Redsdale.
4. Eaglehawk to Kulwin and Robinvale lines.
5. Castlemaine to Mildura line and branches.
6. Connecting lines between Maryborough and Ballarat, and Ararat and Ballarat to Daylesford line.
7. Sunshine-Serviceton (Adelaide) line, Sunshine-Ararat section dealt with in the week preceding main conversion; Ballarat traffic diverted through Geelong and traffic beyond Ararat routed *via* Maroona. The line from Serviceton to Adelaide of the South Australian Government Railways is at present of the same gauge (5 ft. 3 in.) as the Victorian Railways, enabling a through service to be worked between the two State capitals.
8. North Geelong to Ballarat and Maroona lines, and Linton Junction to Cressy line. A third rail will be laid temporarily on the Ararat-Maroona section to avoid transfers at latter station.
9. Ararat to Portland and Horsham to Hamilton lines and branches.
10. Newport to Port Fairy, Hamilton line and branches.
11. Melbourne to St. Albans, Williamstown, and Altona, and Newport-Sunshine lines. Section of Viaduct lines between Spencer Street and Flinders Street.
12. Healesville, Warburton, and Ferntree Gully lines, with extension of the last-named to Emerald.
13. Eastern, South-Eastern, and Stony Point lines and branches.
14. Broadmeadows-Sandringham, Flemington Racecourse, and St. Kilda, and Port Melbourne lines.

The conversion of the Eastern, South-Eastern, and Stony Point lines will probably be the most difficult task because the greatest total mileage, including a heavy mileage of electrified main line, is involved. It is proposed to close successively the several sections in the week preceding the conversion of the electrified portions, Melbourne to Dandenong and Melbourne to Frankston, which will be dealt with at a week-end. The most complicated jobs will be the conversion of the Spencer Street and Flinders Street yards, and the routing of the standard-gauge lines through the suburban electrified system.

A third rail will have to be introduced in places, and much crossing work will be required. Conversion will be effected generally by moving one rail of the track 6½ in. towards the centre, thus displacing the centre line of the track 3½ in. In many places the centre line of the track in relation to fixed structures must not be disturbed. Consequently, where it will be easier and more economical to move one rail 6½ in. to attain standard gauge, the relative position of the centre line will be retained by slewing the rails and sleepers over half the distance one rail is displaced.

ROUTE AND TRACK MILEAGES, VICTORIAN RAILWAYS, JUNE 30, 1944

Gauge	Route mileage						Track mileage		
	Six tracks	Four tracks	Three tracks	Two tracks	One track	Total	Tracks	Sidings	Total
5 ft. 3 in.	3	6½	2½	292	4,329	4,633	4,967	1,028	5,995
2 ft. 6 in.	—	—	—	—	114	114	115	9	124
Total	3	6½	2½	292	4,443	4,747	5,082	1,037	6,119



namely, 3½ in. This course will be adopted where clearances or other conditions render it necessary. In through crossing work both rails will have to be moved inwards 3½ in.

Apart from the actual engineering works, including strengthening and altering bridges and other fixtures, the conversion will involve substantial problems of feeding, housing, and transporting armies of men. Altogether, the adoption by the Victorian Railways of the standard gauge of 4 ft. 8½ in. should rank among the world's noteworthy peacetime gauge conversions.

The route and track mileages of the Victorian Railways at June 30, 1944, were as shown in the table on the previous page.

Alongside is a map showing the broad-gauge group of railways in Victoria and the adjacent portion of South Australia.

G.W.R. First Aid.—The Hon. Sir Edward C. G. Cadogan, K.B.E., C.B., M.P., Deputy Chairman of the Great Western Railway Company, has consented to become President of the Great Western Railway Ambulance Centre in succession to Sir Charles J. Hambro, until recently Chairman of the Great Western Railway Company.

When the centre was formed, as long ago as 1896, H.R.H. Princess Christian became its first President. On her death in 1923, Viscount Churchill accepted the Presidency, and the two succeeding Presidents have been Viscount Horne and Sir Charles Hambro.

At the outbreak of war intensive training was given to many of the staff, employed at the company's South Wales docks, who volunteered for first aid duty. During the five years ended June 30, 1944, no fewer than 239 men and women obtained their first certificates through the St. John Ambulance Association, and during the same period a total of 2,017 persons was successful in passing a re-examination in first aid.

The pre-war ambulance organisation at the docks was on a voluntary basis and reliance was placed on the willing services of an enthusiastic and efficient band of first aid workers to deal with the accidents liable to arise. At the outbreak of hostilities it was decided that certain members of this organisation should be engaged on a full or part-time basis to meet probable aerial attack (including the possible use of gas) and to deal with the increased number of working accidents likely under war conditions.

Twenty-four new first aid posts and twenty-six gas cleansing stations were erected at the principal South Wales ports and specialised equipment was provided. This included Riley rocking stretchers for artificial respiration; Norvox resuscitation sets for use in conjunction with the rocking stretcher or when applying the more usual Schaefer method: Salvus breathing sets for rescue work in contaminated atmospheres; jackets and harness for the safe removal of injured persons from ships holds or confined spaces where ordinary stretcher methods are not practicable, and motor ambulances.

The influx of workers unused to the handling of general cargo; the urgent necessity for the speedy turn-round of shipping, and the added dangers of the blackout resulted in a high incidence of personal accidents. Approximately 1,000 major and 4,000 minor injuries were treated during each of the war years.

Rapid Repair of Locomotives on the London & North Eastern Railway

A description of the methods used to effect complete stripping and re-erection in 16 days

High-pressure engine-frame washing

THE expeditious repair of locomotives is of major importance at the present time, and considerable thought has been given to the ways in which this may best be effected. Below are described the methods at present adopted by the London & North Eastern Railway at one of its principal locomotive works.

When an engine arrives in the repair shops the first operation is to part the engine from the tender. After this has been done, the locomotive is moved into the stripping shop, which is of modern design and contains four roads with pits. It is equipped with overhead cranes, and behind the shop is the boiler park, in which are stored the replacement boilers ready for those engines which need boiler renewal.

The operation of stripping takes two days. The parts which are stripped, namely, the motion and other similar fittings, are placed in skips and boiled in two large-capacity caustic-soda tanks, known as "bosh" tanks. These tanks are so constructed that the skip is lowered into them and the steam and fumes are carried off without entering the shop.

The parts are then moved to an inspection bench, where they are examined for flaws and, at the same time, have their wearing surfaces gauged. After the engine has been dismantled, the stripped engine frame is moved to a position outside the stripping shop where the accumulation of dirt and grease is cleaned off to a considerable extent by washing with a jet of boiling water at a pressure of 350 lb. per sq. in., into which six drops of paraffin per minute are added. This process is illustrated at the head of this article.

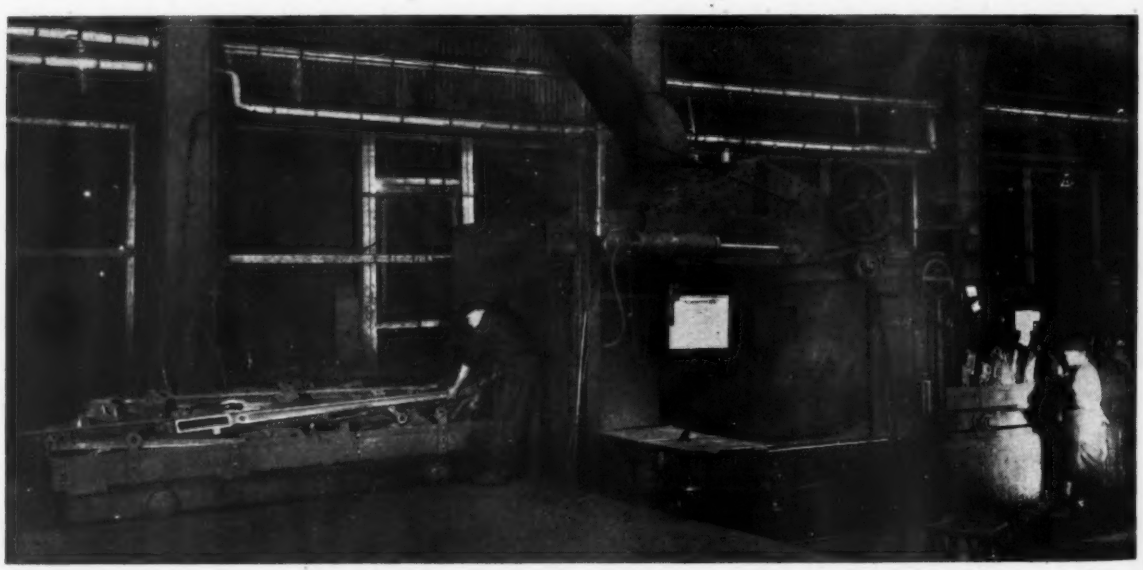
A colour system is used to indicate readily which parts require to be renewed, or repaired, or need no attention; parts are marked red, yellow, or green respectively. A special feature of this inspection bench is that worn bolts, pins, etc., taken from these parts, but which are still capable of further service, are classified accordingly to size and used, after re-conditioning, on similar parts of other engines at a later date, thus obviating the use of new material. Should any other parts be found to be faulty, these are automatically replaced from a spare-part store in close proximity. The parts for repair then leave the inspection bench for the fitting benches and then, if necessary, to the machine shop for re-conditioning. The piecework ticket showing what work has to be done is sent, at the same time, to the fitter or machine hand concerned with the job.

The equipment of the inspection installation provides a store of finished parts in which are kept articles for replacing those set aside for reconditioning, and into which reconditioned parts are sent for further use.

As the parts are repaired they are removed to a collecting centre arranged to cater for parts belonging to individual locomotives. The engine number of each engine undergoing repair is placed on a tablet so that each item can be put in a specified place and the progress system is such that these items must all be in position before the chargehand, who is repairing the locomotive in question, requires them. To the engine gear store are brought all the parts which have been reconditioned for each individual engine which is under repair. The arrangements are such that articles against each engine number are in position before they are required for use on the engine erection pits.

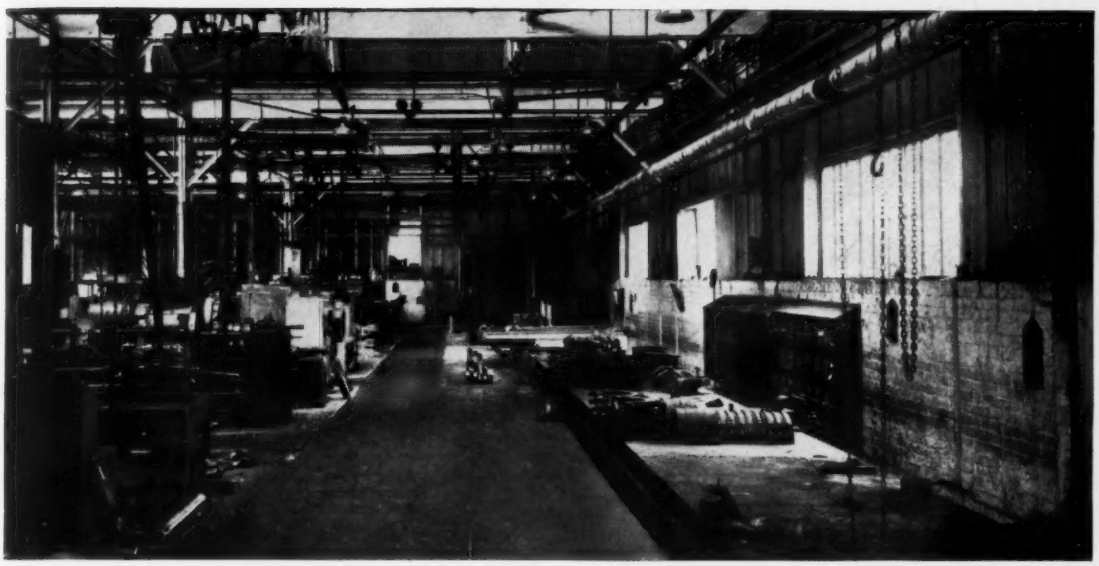
By this time the stripped engine frame has reached the pit on which the repair work will be carried out, and, by ensuring the provision of the repaired parts beforehand, no time is lost in carrying out the re-erection of the engine.

At the same time the wheels are being dealt with. These pass through two distinct cycles of operation: (1) if attention to the tyres and journals only is required,



One of the "bosh" tanks, which are used for boiling the locomotive motion and similar fittings in a solution of caustic soda

Rapid Repair of Locomotives, L.N.E.R.



The inspection bench, at which locomotive parts are examined for flaws and the wearing surfaces are gauged. At this bench worn bolts, pins, and so on, are classified and set aside for reconditioning and later re-use

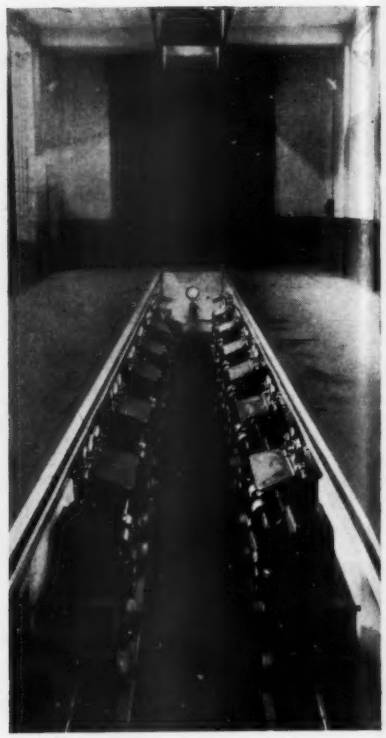
and (2) if the wheels have to be re-tyred or re-axled. These are so arranged that the work does not meet but flows continuously in one direction. The repaired wheels are then stationed at a point where the axleboxes are re-fitted with power lifting appliances, and the finished wheels with their axleboxes complete are placed alongside the engine where the chargehand of the repair gang completes his work, including wheeling the engine, which is then moved over to the weighbridge for weighing and any final adjustments. The complete operation from the commencement of the stripping and including washing and re-assembly and weighing occupies a period of 16 days.

(*See also illustrations, p.* 370)

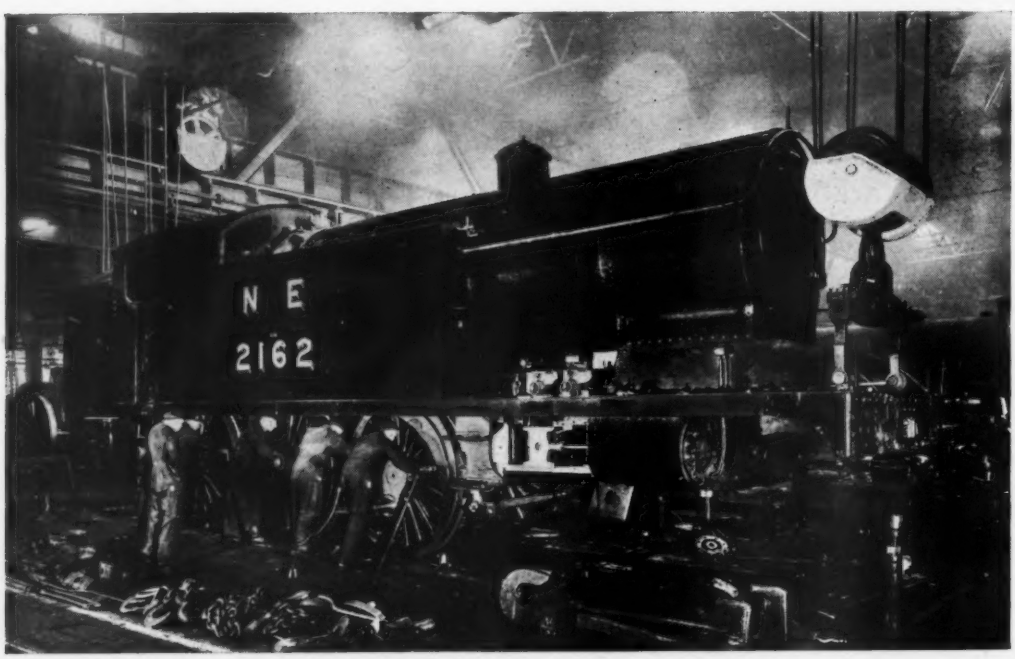
The engine gear store, in close proximity to the inspection bench, which carries a large stock of spare parts which are used to replace any items found to be faulty at the inspection bench

Rapid Repair of Locomotives, L.N.E.R.

Power-operated lifting appliances are used for refitting axleboxes



The engine weighbridge



A general view of work in progress and nearing completion. An L.N.E.R. class "A 8" locomotive, is being wheeled before proceeding to the weighbridge

(See article on page 368)

RAILWAY NEWS SECTION

PERSONAL

Lord Balfour of Burleigh, who recently was elected a Director of Lloyds Bank Limited, has been appointed Joint Deputy-Chairman of the bank. Lord Balfour of Burleigh is a Director of the London & North Eastern Railway Company, and of the San Paulo (Brazilian) Railway Co. Ltd.

Mr. Geoffrey Marshall, Goods Manager, Southern Area, L.N.E.R., who, as recorded in our April 6 issue, has retired from the company's service, was released early in 1943 from responsibility for the goods and mineral work of that area, to take up the appointment of Chairman of the Goods Committee of the Railway Executive Committee. He has represented the L.N.E.R. on the R.E.C. Goods Committee since its formation, and he is retaining his position as Chairman of the committee. Mr. Marshall was born in 1882, and was educated at Winchester and at New College, Oxford, where he obtained, in 1905, the Honours Degree (Lit. Hum.). Later in that year Mr. Marshall joined the service of the Great Northern Railway, and, after obtaining experience in various capacities, was appointed, in 1910, District Manager of the Main Line "B" District, with headquarters at Peterborough. In 1914, shortly after the outbreak of war, he joined the Army and served in India for three-and-a-half years with the 9th Hampshire Regiment, eventually becoming Adjutant. In 1918 he was transferred for service under the Indian Railway Board as Personal Assistant to Major-General Freeland. He returned to England in July, 1919, and resumed his railway duties; on October 1 of that year he succeeded Mr. G. Shaw as Goods Manager, Great Northern Railway. In 1920 he went to America with Mr. H. Thornhill of the L.M.S.R. on an inquiry into certain American railway matters, on behalf of the Railway Companies' Association. In 1923 Mr. Marshall was appointed Goods Manager, Southern Area, L.N.E.R. During his long term of office he has been associated closely with such important matters as rates revision, agreed charges and the "square deal," and finally with the many and varied problems arising from war conditions. The last-mentioned brought Mr. Marshall fresh responsibility as Commander of the H.Q. 1 Home Guard, and subsequently as L.N.E.R. Home Guard Liaison Officer (with the rank of Colonel). Mr. Marshall relinquishes the Chairmanship of the Goods Managers' Conference.

Mr. Geoffrey Marshall

Goods Manager, Southern Area, L.N.E.R., 1923-45, who remains Chairman, R.E.C. Goods Committee

Mr. C. K. Bird, M.M., Acting Goods Manager, Southern Area, L.N.E.R., who, as recorded in our April 6 issue, has been appointed Goods Manager, Southern Area, was born in 1897. He was educated at King's School, Grantham, and at St. John's College, Cambridge, where he was a mathematical scholar, and took first class honours in Part I of the Mathematical Tripos, and was placed as Wrangler in Part II. Mr. Bird served during the war of 1914-18 with the Honourable Artillery Company and the Royal Artillery. He joined the old North Eastern Railway in 1922 and gained experience in the Commercial and Operating Departments in the head offices at York, and subsequently at outside stations. In 1926 he was appointed Chief Staff Clerk to the District Superintendent at Leeds, and in 1928 to a similar post at Middlesbrough. In July, 1928, he was transferred to the Rates Office, York, where he represented the North-Eastern Area on the Clearing House Classification and Container Committees. In 1929 Mr. Bird was appointed Head of the Rates & Statistics Section of the Chief General Manager's Office, and in 1932 also became responsible to the Chief General Manager for Parliamentary matters. In 1934 Mr. Bird was appointed Assistant Goods Manager, Southern Area, and in 1939 he became Assistant Divisional General Manager, Southern Area. Early in 1943 he was appointed Acting Goods Manager, Southern Area. Mr. Bird represents the L.N.E.R. on the Railway Companies' Association Commission on Post-War Planning.

Mr. C. K. Bird

Appointed Goods Manager, Southern Area, L.N.E.R.

We regret to record the death on April 1, in his 73rd year, of Mr. Edgar Wrigley Cozens-Hardy, C.M.G., who was General Manager of the Gold Coast Government Railway from 1919 until his retirement in 1926.

Sir Bruce White has resigned from the board of the Devon General Omnibus & Touring Co. Ltd.

Following the appointment of Mr. E. G. Marsden as Secretary of the Railway Executive Committee, Mr. W. H. Mills has succeeded to the position of Principal Assistant to the Secretary. Mr. Mills has been on the staff of the Railway Executive Committee since September 3, 1939.

Mr. S. J. Harley, formerly Controller of Jigs, Tools & Gauges, Machine Tool Control, Ministry of Supply, has been appointed Technical Controller of the Machine Tool Control. He will be responsible to the Director-General of Machine Tools for all the technical aspects of the work of the Machine Tool Control.

We regret to record the death in action with the British Liberation Army of Lt. Barry Newton, the only son of Sir Charles Newton, Chief General Manager of the L.N.E.R.

Mr. W. J. England, O.B.E., M.Inst.T., Superintendent of Operation, Southern Railway, who, as recorded in our April 6 issue, retired from that position on March 31, was born at Instow, North Devon. He received his early training on the former London & South Western Railway, and, after obtaining station experience at Chard Junction, Bentley, Farnham and Farnborough, was transferred to the office of the Superintendent of the Line. In 1912 he was appointed Assistant Divisional Superintendent, Exeter, and later acted, for a short time, as Traffic Superintendent of the Somerset & Dorset Joint Railway. On the formation of the Southern Railway, Mr. England became General Assistant to the Chief Operating Superintendent; and in 1930 he was made Trains Assistant to the Superintendent of Operation. In 1933 he was appointed Assistant Superintendent of Operation, and in July, 1942, succeeded to the post from which he now retires. Mr. England was made an Officer of the Order of the British Empire in the recent New Year Honours List.

MR. E. N. GODFREY

We regret to record the death on April 3 of Mr. E. N. Godfrey, Chief Clerk to the Superintendent of the Line, Paddington, Great Western Railway, after an illness extending over the past five months. He was 57 years of age, and entered the company's service in 1901 in the Goods Department at Paddington; he was transferred to the General Manager's Office two years later. He served under five General Managers and subsequently took charge of the General Section in the Office of the Superintendent of the Line in April, 1936; he was appointed Chief Clerk (Paddington) in 1942. During the last war, after two years' duty with the Railway Executive Committee, he served with the Forces from September, 1916, attaining the rank of Captain in the R.F.A., and returning to Paddington in July, 1920. He was severely wounded and taken prisoner by the Germans in their March, 1918, advance, and whilst in captivity was reported killed. Thus he had the unique experience of reading his own obituary notices. His engaging personality endeared him to a wide circle of G.W.R. friends and the headquarters staff of other railways. In his early days he was closely associated with the G.W.R. Athletic Association, and later became an active member of the Lecture & Debating Society; his sound knowledge of railway politics brought him into considerable demand as a lecturer. The funeral took place at Holy Trinity Church, Henley-on-Thames, on April 7, when many Great Western Railway officials were present, including:—

Messrs. Gilbert Matthews (Superintendent of the Line); G. E. Orton (Chief Officer for Public Relations), who officiated at the organ; J. M. Dewar (Publicity Officer); H. G. S. Bowles (General Manager's Office); H. Dunton (Chief Accountant's Office); C. Furber (Mineral Traffic Manager, representing Chief Goods Manager); R. Burgoyne (Chief Staff and Establishment Office); A. Grudgeon (Chief Mechanical Engineer's Office); F. W. Green (representing London Divisional Superintendent); Chief Inspector G. H. Partridge, M.B.E.; Messrs. H. M. Young (Signal Engineer's Department); S. Boyce (Hotels Department). Others present included Messrs. A. H. Bird; C. A. Browne; J. F. Cole; J. D. Davies; G. Dyall; E. S. Groves; H. T. G. Miller; F. Paget; S. Gray; T. E. Prior; J. L. Webster, M.B.E.; and Misses E. F. Grimshaw and V. M. Stevens.

Mr. S. W. Smart, Assistant Superintendent of Operation, Southern Railway, who, as recorded in our April 6 issue, has been appointed Superintendent of Operation, entered the service of the former London Brighton & South Coast Railway in 1904, and served in various section of the office of the Superintendent of the Line until the grouping of the railways in 1923. He then was appointed Deputy Assistant for Rules & Regulations in the Chief Operating Superintendent's Office at Waterloo, and in April, 1925, became Assistant to the London (East) Divisional Operating Superintendent. Five years later he was appointed Assistant London (Central) Divisional Superintendent on the amalgamation of the Operating and Commercial Departments into the Traffic Department. Mr. Smart was appointed Assistant for Train Services in 1933, and Assistant Superintendent of Operation in 1942.

We regret to record the death in Johannesburg on January 16, at the age of 74, of Mr. W. H. L. Pybus, Chief Civil Engineer, South African Railways & Harbours, from 1928 until his retirement in 1930.

Mr. Sidney Garcke, who has been a Director of Maidstone & District Motor Services Limited since 1913, has been appointed Chairman of the company and of its subsidiary companies, the Chatham & District Traction Company and Hastings Tramways Company, in succession to the late Colonel H. I. Robinson.

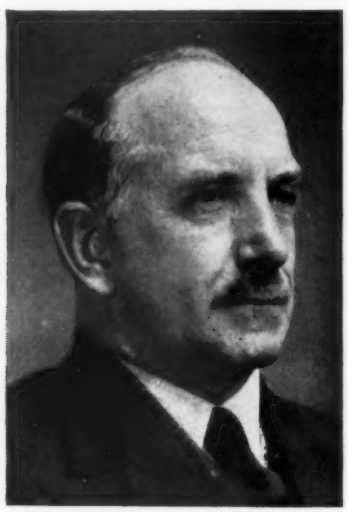
Lord Glenavy has been elected Governor of the Bank of Ireland for the year 1945-46. Lord Glenavy is Chairman of the Great Northern Railway Company (Ireland).

Mr. W. A. Newman, M.B.E., who, as recorded in our March 30 issue, has been appointed Chief of the new Department of Research set up by the Canadian Pacific Railway, has been on loan from the company to Federal Aircraft Limited since December, 1940. He has served as Administrator of the aircraft industry in Canada for the Wartime Prices & Trade Board, and as Aircraft Controller of the Wartime Industries & Control Board in the Department of Munitions & Supply. Mr. Newman will continue with these duties as Consultant so long as his services are so desired. He was made a Member of the Order of the British Empire in the King's Birthday Honours List, 1943, for services while on loan to Federal Aircraft Limited. After graduating from Queen's University, Mr. Newman entered the Angus Shops of the C.P.R. in 1911 as an apprentice. He became a draughtsman in 1912, and four years later went to Windsor Station headquarters, Montreal, as Supervisor of Betterments in the office of the Chief Mechanical Engineer. In 1917 he was appointed Assistant Mechanical Engineer. He became Locomotive Construction Engineer in 1918, and Locomotive & Car Construction Engineer in 1920. In 1923 he was made Mechanical Engineer, and in 1928 was appointed Chief Mechanical Engineer.

Mr. F. W. Lampitt, Chief Goods Manager, Great Western Railway, has been appointed Chairman of the Goods Managers' Conference to the end of 1945.

Mr. W. J. England

Superintendent of Operation Southern Railway, 1942-45



Mr. S. W. Smart

Appointed Superintendent of Operation, Southern Railway

Mr. W. A. Newman

Appointed Chief of Department of Research, Canadian Pacific Railway

TRANSPORT SERVICES AND THE WAR—289

P.O.W. Trains

Since " D "-Day the L.M.S.R. has run more than 1,000 special trains conveying Prisoners of War from the Western Front. The longest journey involved a trip of 582 miles.

Motor Vehicle Rear Number Plates

The date on which illumination of rear number plates of motor vehicles becomes compulsory has been postponed by the Minister of War Transport from March 29 until June 30, to give further time for effecting the necessary alterations.

Long Railway Haul

An example of the long hauls which the British railways are required to make with special trains on behalf of Service Departments occurred recently when a special through train was run a distance of 773 miles on the L.M.S.R. for a party of men and their equipment. Six engine crews were required.

Locomotive Coal Shortage

The British railways, like other industrial undertakings, and householders, have been affected adversely by the coal shortage. In peacetime, adequate stocks of locomotive coal were maintained so that, if supplies became difficult to obtain, normal services could still be operated. During the war, however, the position has deteriorated and priority calls on coal output have necessitated the railways accepting both reduced quantities and inferior qualities of fuel.

The low calorific value of inferior coal has led to an increased consumption and has had serious repercussions on train working. The difficulty of maintaining adequate steam pressure has reacted on the timekeeping of trains, and often it has been necessary to change locomotives *en route*, especially on long journeys, because the tender capacity of the inferior coal has been consumed. Steps taken by the railways to overcome the shortage of locomotive coal have included the use of household coal, open-cast coal, briquettes, coal salvaged from the line, marshalling yards, and sidings, and also gas coke.

Holiday Travel

The Railway Executive Committee has endorsed the recent Government announcement that the need for staggering holidays is more than ever necessary this year. Because of shortages of locomotives, rolling stock, and labour, it will be impossible for the British railways to introduce holiday trains this summer without seriously interfering with the movement of essential freight traffic.

The Minister of War Transport has stated that it is not possible to say now what passenger transport facilities can be provided this summer for the conveyance of workers who wish to go on holiday. Since last summer, many hundreds of locomotives have been transferred from the British railways to the Continent, and that alone will limit the amount of passenger rail transport that can be provided. In addition, the position in regard to road transport is far from easy, and the prospects of any use of buses for long-distance travel are not good. The shortage of personnel, petrol, and rubber will not permit of buses being used for this purpose, and, therefore, long-distance travel must be confined to the railways.

In these circumstances, therefore, if holiday travel is to be undertaken with less discomfort than in the past year, intending passengers should make arrangements to take their annual leave in June, July, and September, when there is a reasonable chance of the railways, road transport, landladies, and caterers being in a position to offer accommodation. A measure of staggering of holidays was achieved last year, but, unfortunately, there are still many firms which confine their holiday periods to the last week in July and the first week in August.

New Double-Deck Buses

The Ministry of War Transport is prepared to receive applications through Regional Transport Commissioners for licences to acquire new Crossley high-bridge and low-bridge double-deck buses fitted with all-metal bodies and Crossley 6-cylinder oil engines, for delivery beginning in September.

B.L.A. Leave Train Changes

Some alterations were made on Sunday, April 1, to the daily B.L.A. leave trains serving the North-East Coast, the Midlands, and Scotland.

The L.N.E.R. through train to Doncaster, York, Stockton, West Hartlepool, Sunderland, and Newcastle was extended to Edinburgh.

The G.W.R. through train which formerly ran to Crewe and Manchester now runs instead to Liverpool (Lime Street), calling at Birmingham, Wolverhampton, Shrewsbury, Chester, Runcorn, and Edge Hill. In its place, the L.M.S.R. runs a through train to Manchester, calling at Crewe and Stockport.

The L.M.S.R. through train to Carlisle and Glasgow remains unaltered.

Previous alterations to the daily leave trains were recorded in our issue of March 9, page 242.

Insurance of Goods Motor Vehicles

It may be recalled that in December, 1944, insurers of motor goods vehicles agreed to continue and extend, without any general increase in rates, existing policies for goods motor vehicles while used within a group scheme, although the Emergency Powers (Road Vehicles & Drivers) Order, 1939, removed certain restrictions on " A," " B " and " C " licences under the Road & Rail Traffic Act, 1933. The same concession has been agreed to in respect of vehicles used for other purposes on a certificate by an officer of the Ministry of War Transport that such use is necessary (1) to deal with an emergency or (2) because there were no other vehicles available which were licensed and insured for haulage for reward. These certificates are issued by District Transport Officers and are not issued for normal work for the Road Haulage Organisation of the Ministry; Civil Defence work; use which could be put on a non-emergency footing. The insurers have now agreed that these arrangements shall be in force until June 30.

Increase in Belgian Goods Rates

Railway goods rates in Belgium were increased by 50 per cent. for ordinary goods, and by 25 per cent. for express goods, as from February 1.

Lisbon-Paris Train Service

To facilitate travel between Portugal and France, a through train service between Lisbon and Paris, on the route of the Sud Express, was begun on Thursday, March 22, and is to be maintained once a week. It consists of one Wagons-Lits vehicle and two ordinary first-class carriages forming a rake which is attached to a succession of local trains in Portugal and Spain. The schedule provides for a Thursday morning departure from Lisbon, and a Saturday morning arrival in Paris. The only change of carriage is necessitated by the break of gauge at Irun on the Franco-Spanish frontier.

French Travel Restrictions Repealed

All travel restrictions in south-eastern and western France were withdrawn as from March 12.

Paris Metro Services

The rehabilitation of the Paris Metro services is progressing apace. It was announced early in March that 16 more stations had been reopened to traffic during the past few days. Passenger lifts are now working again at all open stations deep enough to have them. The number of trains on the lines carrying heavy traffic has been increased.

First Allied Rhine Bridge

The first allied-built railway bridge across the River Rhine was brought into use on April 9. This bridge, which is 2,580 ft. long, was designed in England 15 months ago and erected by U.S.A. engineers in 11 days.

Another Italian Railway Restored

A Rome message of March 28 announced that the railway between Florence and Pisa had been re-opened, thus completing a network of communications leading to the approaches of the River Po valley. The line carries supplies from the port of Livorno (Leghorn) to the Fifth Army front. A 500-ft. railway bridge, said to be the longest yet constructed by military engineers in Italy, was built across the River Arno.

U.S. Civilian Transport Equipment in 1944

The U.S. Office of Defense Transporation has announced that production of civilian transport equipment was larger in 1944 than in 1943, in spite of heavy military demands and shortage of manpower. As claimant agency for domestic transport under the War Production Board controlled material plan, the O.D.T. succeeded in setting into production nearly its full programme for the year.

Locomotive production is close to schedule with 963 units, compared with 830 built in 1943. The O.D.T. 1944 programme called for 50,000 new goods vehicles. This was reduced to an actual production of 42,810, largely because of manpower shortages. Only 2,870 were produced in 1943 because of the material situation in that year. The 939 troop sleepers and kitchen cars completed were part of the 1943 programme of 1,600 such cars, and these were all put into use by March, 1944.

An important item of railway equipment is new replacement steel rail, of which 1,900,000 tons were furnished in 1944, compared with 1,540,000 tons in 1943.

Production of road motor vehicles of various sizes (including bus chassis) shows a notable increase, with 96,084 produced out of 101,000 scheduled, compared with 2,699 produced in 1943. This production for civilian use is small in contrast with an average production in years preceding the war of 600,000 lorries for civilian use within the U.S.A. Of integral buses, 5,150 were produced in 1944, compared with 1,546 in 1943. With no passenger motor cars having been produced since the spring of 1942, and the manufacture of lorries and buses having been resumed on a small scale only in the autumn of 1943, the O.D.T. has been concerned with keeping all existing vehicles moving. It has exerted constant pressure for the manufacture of new motor replacement parts. As a result of this, the O.D.T. reports the manufacture of nearly $800,000,000 worth of such parts in 1944. Pre-war production never greatly exceeded $600,000,000 annually.

Ministry of War Transport Accident Report

Romford, L.N.E.R.: December 29, 1944

Major G. R. S. Wilson inquired into the accident which occurred in a dense fog at about 6.20 p.m. on December 29, 1944, on the up local line at Romford Station, L.N.E.R., when the 5.20 p.m. stopping train from Chelmsford, which had left Gidea Park Station at 6.10 p.m., ran at a speed of about 15 m.p.h. into the rear of the 5.52 p.m. goods train, Brentwood to Temple Mills, standing at Romford inner home signal (which forms the starting signal for the up local platform) awaiting admittance to the yard. The fog signalmen were at their posts. The goods guard was killed and the guard of the passenger train, who was travelling in the first coach, and two passengers had slight injuries. The outer and intermediate home signals were passed at danger although the warning indication of the distant signal duly had been observed by the enginemen of the passenger train, whose locomotive was running tender first. There was conflict of evidence whether a detonator was exploded at the outer home by their engine; both of them denied having heard one, whereas the fogman stated that a detonator was exploded by it and that he placed another by machine under the train. The explosion of *one* detonator was heard by two independent witnesses. The circumstances of the accident can be understood by reference to the accompanying diagram showing the lines, signals, etc., involved. The lines are completely track circuited and trains are signalled by describers; no block apparatus is in use.

The goods train was being held rather longer than usual, as traffic on the through lines prevented the movement into the yard from being made. The passenger train was seen on the illuminated diagram at Romford to enter track section C and then C_1 and shortly after that a message came from the fogman at the outer home that the signal had been passed at danger and that the train had been "shot." The signalman was certain that no mention was made of a second detonator being put on and exploded. The enginemen of the goods train said that they left Brentwood in fairly clear weather, but met fog onwards from Harold Wood which became thicker as they proceeded. Between them they saw all signals, however, although with some difficulty. The evidence of the driver of the passenger train was somewhat confused and even contradictory. He admitted seeing that the distant signal was against him on starting from Gidea Park, and that he heard a detonator there and the fogman call out that the starting signal only was off. He went forward through the section at about 5 m.p.h., expecting that he might have to stop at the outer home and had no doubt of the position of the fog post there. He saw no fixed or hand signals and heard no detonator; the collision took him by surprise. He suggested that the fog was so dense as to prevent him seeing the signals, footbridge, or any landmarks. It was not clear whether he was under the impression that he was still approaching the outer home or thought he must have passed it. He maintained that he never relaxed his vigilance after leaving Gidea Park. He had never suffered from deafness, but he referred to the intense cold in running without the protection of the cab. The fireman was sure he heard no detonator after leaving Gidea Park; he saw no signals either. The guard heard the detonator at Gidea Park and later another; looking out he could see nothing in the dense fog and thought the detonator might have been exploded by a train on an adjacent line, although he had not noticed one. After the collision he went to protect his train and coming back had a short conversation with the fogman at the outer home, but could not recollect clearly whether that man said "I shot the train" or "I shot him a second time" or "I tried to shoot him a second time."

Major Wilson went carefully into the working of the Clayton machine at the outer home and satisfied himself that it was in order at the time of the accident, and further that no other train was in the immediate neighbourhood when the signal was over-run. The sound of *one* detonator was heard by a ganger at the down fog post (see plan) a few minutes after the goods train passed. The passenger train passed, he said, at about 10 m.p.h. and steam was shut off as it was level with his post. There were no other trains in the neighbourhood then. He was sure he heard no second explosion. The outer home fogman declared that he replaced a detonator on the rail after the goods train went by. He was quite certain this was exploded by the passenger train, and when he realised that it was not going to stop he placed a second detonator under the wheels, possibly under the trailing bogie of the leading coach. He was emphatic that this, too, went off. He then telephoned to Romford signal box to say the train had run by and had exploded two detonators, but the signalman denied hearing mention of two.

Inspecting Officer's Conclusion

There seems little doubt that visibility between Gidea Park and Romford deteriorated appreciably between the passage of the two trains, and darkness was complete when the passenger train passed. Major Wilson is satisfied that it passed both outer and intermediate home signals at danger, and that the driver was unable to see them under the adverse conditions. Neither the driver's evidence nor that of the outer home fogman received independent confirmation in full but *one* detonator—which Major Wilson is satisfied was at the outer home—was heard by two reliable witnesses. There is proof, too, that the fogman was alert, and it is difficult to believe that an experienced man would not have carried out the simple routine of placing a detonator on the line immediately behind the goods train without waiting for the signal to go to danger. The fogman is entitled to the benefit of the doubt, but one cannot feel so sure that he placed a second detonator under the train. He was, however, prompt in telephoning to the box.

Major Wilson is unable to suggest any satisfactory explanation of the apparent failure of the driver and fireman to hear the outer home detonator. The possibility cannot be disregarded that neither man was in the alert and expectant state of mind stressed by their evidence. The driver was aware of his exact position at Gidea Park and realised that he might have to stop at the outer home, 1,010 yd. ahead, and the fact that he ran 1,724 yd. without, it appears, becoming unduly concerned as to his location indicates serious misjudgment of speed and distance. His speed of up to 15 m.p.h. does not suggest grave want of caution, but it was considerably in excess of his estimate of 5 m.p.h. It seems he was prepared to continue forward more or less indefinitely without seeing

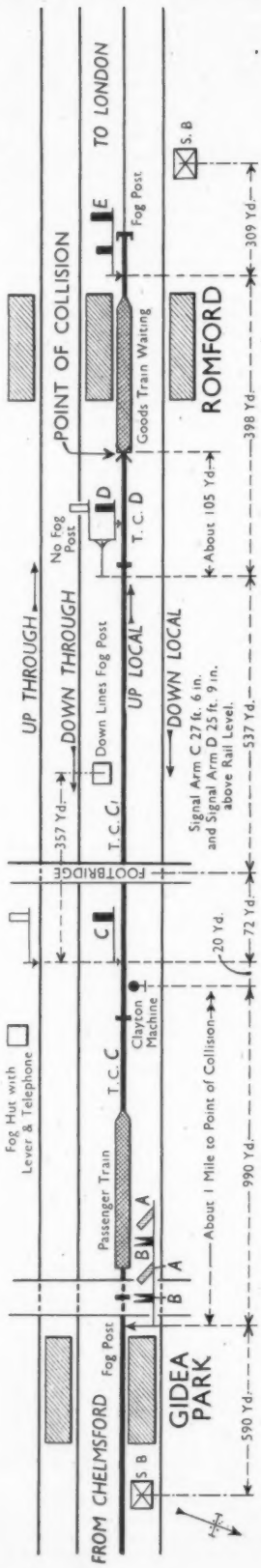


Diagram illustrating circumstances of collision at Romford, L.N.E.R., on December 29, 1944

Passenger train started from Gidea Park Station and, although warned by detonator there and at signal C, overran the latter signal and signal D, colliding with the goods train at Romford Station. All fog posts were manned. Track circuit working with describers. Signal A released by track sections C & C1 clear and proves signal C replaced behind previous train. Sections C, C1 and D indicated in Gidea Park and Romford signal boxes

signals until he heard the explosion of a detonator. He must be held responsible for the collision, but the difficulties under which he was working should not be overlooked, including absence of landmarks and exposure to cold weather without the protection of the cab. No responsibility is laid on the fireman.

REMARKS

The report points out that warning automatic train control at the distant signal would not have prevented this accident and refers to the one at Crewe L.M.S.R. on November 16, 1937—reported in our issue for April 29, 1938—where it was considered that an engineman, running at about 20 m.p.h. in dense fog, failed to hear the explosion of a detonator, and reproduces the following remarks from Major Wilson's comments on that case:—

"It is not easy to understand why, in a succession of detonator explosions, one should be heard and another missed. Nevertheless, under the varying conditions of train working in fog, when detonators are being exploded at comparatively frequent intervals, not only by the train immediately concerned but by other trains on adjacent lines, it is possible that enginemen may, on rare occasions, fail to notice an audible signal. With semaphore signalling the safety of operation in fog depends on the detonator; on the whole the system works well in practice, and that it does so is a tribute to the vigilance of enginemen generally and to their detailed knowledge of the road."

But for the war the semaphore signalling between Gidea Park and Liverpool Street would have been replaced by colour lights with continuous track circuiting, as part of the electrification to Shenfield. On completion such signalling will be continuous for the 20 miles of quadruple track between there and London with advantage to the facility and safety of traffic operation on this densely occupied section, where fog is so prevalent in winter.

Passenger train started from Gidea Park Station and, although warned by detonator there and at signal C, overran the latter signal and signal D, colliding with the stock standing at the platform. Sections C, C1 and D all fog posts were manned. Track circuit working with describers. Signal A released by track sections C & C1 clear and proves signal C replaced behind previous train. Signal C replaced behind previous train. Sections C, C1 and D indicated in Gidea Park and Romford signal boxes

Associated Electrical Industries Limited

The annual general meeting of Associated Electrical Industries Limited was held at Crown House, Aldwych, London, W.C.2, on April 5. Lt.-Colonel Sir John R. Chancellor, G.C.M.G., G.C.V.O., D.S.O., Deputy-Chairman of the company, presided.

The Secretary, Mr. R. H. Haviland, A.C.A., having read the notice convening the meeting and the auditors' report,

The Deputy-Chairman said: Ladies and gentlemen, in the absence of our Chairman, Sir Felix Pole, due, I regret to say, to illness, the board have appointed me to be Deputy-Chairman, and I am taking the chair today in that capacity.

Since our last meeting we have lost by death two of our Directors—Mr. P. S. Turner and Mr. Norman B. Dickson. Mr. Turner was a Vice-Chairman of Associated Electrical Industries Limited, a Director of Metropolitan-Vickers Electrical Co. Ltd., and of other companies in the A.E.I. group. He joined the Metropolitan-Vickers Company in 1903 and for many years devoted his energies to the development of electric traction in this country and abroad. Mr. Norman B. Dickson joined the board of the British Westinghouse Company in 1910. Later he became a Director of Associated Electrical Industries Limited, and continued to be a member of that board up to the day of his death. We greatly miss the counsel of these valued colleagues.

Later you will be asked to confirm the appointment of Mr. A. J. Boyd, Captain Hugh Vivian, and Mr. V. J. Radbone as Directors. The varied experiences of these gentlemen will considerably strengthen your board.

Your Directors have pleasure in laying before you their report and the statement of accounts for the last year, and the proprietors will have noted with satisfaction the strength of the balance sheet, and particularly of the consolidated balance sheet. If you will turn to the profit and loss account, you will see that the profit for the year was £703,400, that is after making full provision at current rates for all taxation payable in respect of the profits earned up to December 31, 1944. This compares with £695,266 for the previous year, an increase of £8,134. After charging £235,857 against £235,295 for depreciation of plant, etc., the net profit was £467,543, an increase of £7,572. To the net profit of £467,543 has to be added £301,309, being the balance brought forward from the previous year, making a total amount to be dealt with of £768,852.

In regard to the provision for depreciation, as the proprietors will be aware, the accounts relate mainly to the Metropolitan-Vickers Electrical Company, and the provision of £235,857 for depreciation is in respect of that company. Depreciation provided by all the companies in the associated group (including the British Thomson-Houston Company's liberal provision) total £552,058. Your Directors felt that the special reserve account should be increased by a further appropriation from profits of £150,000, making this reserve account £650,000.

After providing for dividends on preference stock £52,306, there remains £566,546. Your Directors recommend a dividend on the ordinary stock of 10 per cent. per annum, less tax, leaving a balance to be carried forward of £320,454 as compared with £301,309 brought in from the previous year.

If you will now refer to the balance sheet, you will see that creditors, accrued charges, and reserves for contingencies, £9,928,897 (and amounts owing to subsidiary and sub-subsidiary companies, £398,242) total £10,327,139, an increase of £924,553.

On the assets side of the balance sheet, shareholdings and debentures in subsidiary companies and investments in other than British Government securities total £4,093,633, a decrease of £32,001. The stocks and materials on hand, debtors, etc., amounting to £11,673,670, show a decrease of £983,528. Cash and British Government securities including Tax Reserve Certificates at £2,894,129, show an increase of £1,963,095.

As usual, we have published a consolidated balance sheet showing the position of the associated group of companies as a single unit. I would again direct your attention to the strength of the group as demonstrated by the reserves and profit and loss accounts, which items have increased by £308,707 to £5,085,171, after writing off £146,649 from patents and goodwill in subsidiary companies.

A final step in the policy of financial consolidation which has been the object of the group since it was formed has now been taken through the offer to acquire the £1,500,000 of 7 per cent. preference shares of the British Thomson-Houston Co. Ltd., held by private investors. To enable this to be done, the authority of the shareholders of A.E.I. was obtained to create £1,363,000 new A.E.I. 8 per cent. preference shares. The holders of the B.T.H. preference shares were offered ten A.E.I. 8 per cent. preference shares in exchange for eleven 7 per cent. preference shares of the B.T.H. Company. This offer was accepted by B.T.H. shareholders representing over 90 per cent. in the nominal value of the whole of the 7 per cent. issued preference shares, and was accordingly declared binding on March 17. To meet the wishes of certain B.T.H. shareholders who were unable to notify their acceptance of the offer by March 16, your board has agreed to extend the closing date to April 18.

The output from the various factories of the group was greater than in any previous year, and the orders now in hand also constitute a record. Practically the whole of our manufacturing facilities have been employed on Government work, either for various forms of war equipment by direct contracts, or for electrical apparatus ordered under priorities sanctioned by the Government. There are now over 65,000 persons employed by the A.E.I. group of companies, of whom approximately 42 per cent. are women. We anticipate that for some time to come there will be no lack of orders and that we shall be fully employed on our normal products after the war comes to an end. The companies comprising the A.E.I. group have always shown a sympathetic interest in the welfare of their employees, for whose benefit various pension and benevolent schemes have been established. Committees of the employees are in constant touch with the management in seeking to smooth out the difficulties caused by war conditions. I am pleased to be able to report that in spite of the great difficulties under which both the management and employees at present operate, no serious labour disputes have arisen during the war. I know that you will readily join with me in paying a tribute to our workpeople, men and women, and to the officers of all ranks and grades, for their loyal and tireless service throughout the year. Without it we could not have carried out the extensive programme of work thrown upon us by the war. We must not omit also to pay a tribute to our employees who are serving in the armed forces of the Crown and to wish them a safe return to their homes and families. Your company has benefited greatly from the active policy pursued over many years in regard to the education and training of apprentices. During the war period the training of Indian artisans under the Bevin scheme was undertaken, and we have recently arranged with the Admiralty to accommodate selected midshipmen for a short period of engineering training.

For many years before the war the combined research departments of the group occupied a premier position in the electrical industry, and they have contributed in no small degree to recent scientific discoveries and to the improvement of engineering design and technique which these discoveries have brought about. Many of the scientists employed in these departments are foremost in the country in their particular fields of research; and on the outbreak of war, their skill and experience proved to be of

inestimable value to the research and development departments of the various Ministries. Many of the company's officers have been lent to the Government to assist various Ministries in carrying out their design and production programmes.

You will be gratified to know that a number of honours have been awarded to our employees, and in particular that the King has conferred a Knighthood on Dr. A. P. M. Fleming, C.B.E., of the Metropolitan-Vickers Company, for his services in connection with education and research.

So far back as 1936 the Metropolitan-Vickers Company began to assist the Government in the development and manufacture of various forms of equipment for the fighting Services. Since then the scope and volume of that work has steadily grown. Full accounts of our contributions to the defence and war programme and of the achievements in this direction cannot yet be given, but it is now permissible to indicate the wide range that this work has covered. The most notable of that company's contributions have been in connection with the development and manufacture of radar equipment, automatic pilots, gun mountings and controls and aircraft. Some idea of the magnitude of this work can be gauged by the fact that during the period indicated it has been found necessary to increase our manufacturing floor space by more than 50 per cent.

In the early days of the war, there was serious danger of this country's power stations being damaged by bombs. To meet that danger the company's engineers designed mobile power sets for emergency operation. Fortunately occasions for their use did not arise in this country; but the designs were modified and adjusted to suit conditions in the U.S.S.R., and many of those sets, mounted on railway rolling stock, have been manufactured and sent to the assistance of our Russian Ally. Those mobile sets are complete power installations having outputs of 1,000 to 5,000 kilowatts.

In 1938 the Metropolitan-Vickers Company was requested by the Secretary of State for Air to place its manufacturing experience at the disposal of the Government for the manufacture of aircraft. This request was readily complied with, and the company undertook the manufacture of the Manchester bomber to the design of A. V. Roe & Co. Ltd. A happy association with that firm was thus initiated which still continues. The Manchester bomber was superseded by the Lancaster, which is now being replaced by the Lincoln.

Among our subsidiary companies may be mentioned Ferguson Pailin Limited, which specialises in switchgear, the Edison Swan Electric Co. Ltd., Ediswan Cables Limited, and Harcourts Limited. All these companies have been fully employed during the period under review and their products include various forms of special apparatus to meet the needs of the services. Amongst other products may be mentioned switchgear, radio valves, batteries, and special types of cables.

At this stage of the war it is natural that the thoughts of Directors and officials should be turned to the problems of the post-war period; and in our deliberations the measures to be taken to maintain and increase our export business have occupied a prominent place. We have been told that in order to pay for the imports necessary to enable us to maintain our present standard of living, the value of our exports must be increased by 50 per cent. To attain that object will be a formidable undertaking; but with Germany and Japan out of action for some years to come it should not be beyond our power. It will be necessary for us to insure that the industrial efficiency and the productive capacity of our factories are maintained at the highest level by providing them with the most modern machinery and by seeing that the most economic processes of manufacture are used. The strain that has been thrown upon our factories by the war, the recent improvements in engineering practice and the rapid obsolescence of plant which are consequences of the discoveries made by our research workers combine to make the thorough re-equipment of our factories more necessary today than ever before. For this large capital expenditure will have to be incurred.

It was therefore encouraging that the Chancellor of the Exchequer announced in his recent speech on the special finance bill that the taxation policy of the Government would be so adapted as to facilitate modernisation of industrial plant.

The report and accounts were adopted.

After the formal meeting, Mr. Clark Minor, an American director of the company and President of the International General Electric Company of America, briefly addressed the shareholders and told them of the successful working of the British War Relief Society of America. He said that the Society had provided £11,500,000 and that its operating expenses both in this country and America have been less than 8 cents in every dollar. The balance sheet laid before the meeting was excellent. The record and progress was almost identical with the record and progress of the General Electric Co. Ltd. of America, with which the Associated Electrical Industries Limited always had enjoyed an exchange of patents and technical information. The time was fast approaching when it would be possible to get back to the normal channels of trade in a new world and when the work done by the British War Relief Society of America, to create and foster a spirit of comradeship, would be of great value.

British Automatic Co. Ltd.

The ordinary general meeting of the British Automatic Co. Ltd. was held at Winchester House, Old Broad Street, E.C.2, on April 4. Major R. D. K. Curling, M.C., Chairman & Managing Director presided. The Acting Secretary, Mr. Ivan B. Lindley, read the notice convening the meeting and the auditor's report.

The Chairman said :—

Major Dodge is absent from this meeting as he is still a prisoner of war in Germany.

The Chairman, in the course of his statement circulated with the report, said :—

This year we are submitting a consolidated profit & loss account in addition to a consolidated balance sheet of the company and its subsidiaries. They are virtually in the form recommended by the Institute of Chartered Accountants and shareholders will find them more informative than the form previously used.

You may remember that last year I drew attention to the fact that the liquid cash position of both this company and its subsidiaries had considerably improved, with the result that your directors felt justified in redeeming the whole of the outstanding 5½ per cent. debenture stock at 101½ and this took place on December 30, 1944. The saving amounts to £6,446 a year. When, in February, 1930, a debenture issue of £250,000 was made at 8 per cent. interest, the annual interest charge was £20,000. At that time the company was in a state of financial distress. In 1935 the rate of interest on the debentures was reduced from 8 per cent. to 5½ per cent. by conversion.

What shareholders, I am sure, will appreciate is the fact that within 15 years a debenture debt of a quarter of a million pounds has been entirely paid off, and that dividends have been paid to shareholders since 1935. This explains why the cash on deposit is less by £42,000, tax certificates by £10,000 and the amount due to subsidiaries is more by £51,391, compared with last year.

I will now deal only with those other items in the balance sheet where there have been significant changes, and with the profit and loss accounts. The company is free of debt except for the current amounts due to trade creditors and, moreover, stands possessed of cash and marketable investments to an amount of £130,098 and £54,936 in the hands of subsidiaries, making in all £185,034.

Our automatic business has been greatly dislocated by the war and very considerable repairs and replacements of automatic machines are accumulating, for which provision, so far as it can be estimated, is being made in the accounts.

Leases and goodwill £15,581, which appears for the first time, represents the interest we have acquired in retail businesses which is assisting us to dispose of our commodity quotas, since we have been prevented from doing so through our vending machines on account of personal points rationing. Stocks have increased by £6,894, mainly on account of this new business. Depreciation and renewals account has been increased by £23,000 after providing £4,571 for machines which were scrapped during the year from the allocation of £27,571 from profits. Deferred maintenance of machines reserve has been increased by a further £15,000, less income tax thereon £7,500, to £30,000, as it is quite impossible to effect the necessary repairs now.

Turning to the profit and loss account, which is now in two sections, trading profit has increased by £18,573. The net profit at £21,140 was £8,904 more than last year. The balance of profit brought forward from 1943 was £5,008, and this, added to the profit for the year, makes a total of £26,148, which is being dealt with as set out in the directors' report. The addition of £6,182 to the amount carried forward may become a useful stabilising factor during the inevitable period of dislocation and reorganisation following the end of hostilities.

Last year I reported that the receipts from our weighing machines had increased and that we were exploiting this business to the fullest possible extent. In 1944 the takings from our weighing machines were the highest ever obtained in the history of the company. A few facts in this connection may be of interest to shareholders. The total weight of human beings who weighed themselves was over two and a quarter million tons, and the pennies utilised, if placed in a row, would reach from London to 100 miles past Berlin. These figures are interesting and almost fantastic, and if the public will only realise that weight is a guide to health I am sure that our weighing machine earnings will continue to improve.

I am pleased to say that we have had good news from the manager of our Belgian

company, who has been carrying on the business during the occupation by the Germans.

Although, unfortunately, owing to war conditions, we are not doing the same business with the railway companies, I am still very happy to say that our relations with them continue on a very friendly basis.

I would like to thank the Assistant General Manager—Mr. W. J. Devenish—the managers and all our staff for their efforts on behalf of the company throughout the year, without which the results obtained could not have been achieved.

I would also like to thank my colleagues on the board for having so ably assisted me during the year under review.

The report and accounts were adopted.

Metropolitan - Cammell Carriage & Wagon Co. Ltd.

Speaking at the eighty-first annual general meeting of Cammell Laird & Co. Ltd., Sir Robert S. Johnson, the Chairman & Managing Director, mentioned that his company owned half the shares of Metropolitan-Cammell Carriage & Wagon Co. Ltd.; Vickers Limited owned the other half.

He said that the Metropolitan-Cammell Carriage & Wagon Co. Ltd. had been employed during the war very largely on the manufacture of fighting tanks of all types. It had produced thousands of these and had also fitted for special service a large number of others; in fact, its achievements, he believed, had been ahead of any other similar organisation in the country. During the war, because of its other activities, it had not been able to build railway carriages, but a small number of bus bodies were built in the early stages and a small number of railway wagons, the bulk of which were for government requirements here or abroad. It had been also the biggest manufacturer of radio direction finding cabins.

The company, in addition to its own works at Birmingham, owned the Midland Railway Carriage & Wagon Co. Ltd. and the Patent Shaft & Axletree Co. Ltd., and when the war was over it was hoped to get back to the normal business of building railway carriages, wagons, and rolling stock of all descriptions. The future for the business was very bright, as the war had caused such a world shortage, and the company looked forward with the greatest confidence to the future.

STOCK CONTROL AND STOREKEEPING.—A booklet (B.S. 1100 : Part 5 : 1944) has been prepared by the British Standards Institution, in its "Office Aid to the Factory" series, which has been undertaken with the approval of the Ministry of Production, dealing with stock control and storekeeping. Although the booklet is broadly applicable to all industrial undertakings, it is designed mainly for the smaller firm. The procedures suggested are on the simplest basis, and need adaptation to individual circumstances. The booklet gives recommended procedures for the various departments concerned, for the organisation of the clerical system (with an explanatory flow chart), and appendices of general hints and relevant points relating to the training of staff for stores work. Illustrations of suitable record cards are given. Copies may be obtained from the Publications Department, British Standards Institution, 28, Victoria Street, London, S.W.1, price 2s., post free.

Staff and Labour Matters

Railway Wages

Claims for improved wages and conditions of service have been submitted to the railways by the various trade unions catering for railway employees.

The National Union of Railwaymen, which caters for all sections of staff, is claiming for the conciliation staff a new wage structure based on a minimum wage of £4 10s., which means an increase of 13s. a week on the existing minimum wage. It also is claiming a guaranteed week of 40 hr. to be worked in five days of 8 hr. each; twelve days' holiday each year; payment of double-time rate for work on bank holidays and a day off in lieu; double-time rate for Sunday duty; time-and-a-half rate for duty between 6.0 p.m. and 6 a.m. on weekdays; overtime payments to be time-and-a-half rate with double-time rate when worked between 6 p.m. and 6 a.m.; payment of wages to be made during illness on the same basis as that for the salaried staff; a pension scheme to be introduced providing a pension of not less than 50 per cent. of retiring rate of pay (with a minimum of £2 5s.) at age 60; the abolition of rural rates of pay and certain other improvements in conditions. For the locomotive grades it is claiming weekly rates of pay of £6 for drivers, £5 5s. for firemen and a scale rising from £2 at age 15 years to £4 10s. at age 20 for engine cleaners. For the salaried staff it is claiming revised conditions of service and the following new scales of pay :—

Stationmasters, goods agents and supervisory staff	
Class 4 ...	£312–£352 a year
Class 3 ...	£372–£412 ,,
Class 2 ...	£432–£472 ,,
Class 1 ...	£512–£600 ,,
Special class	Minimum £650 a year
Control staff	
Class 4 ...	£160 at age 18 rising to £360 a year at age 36 with a proficiency test on attaining a salary of £280 at age 26
Class 3 ...	£372–£412 a year
Class 2 ...	£432–£472 ,,
Class 1 ...	£512–£600 ,,
Special class	Minimum £650 a year
Clerical staff	
Juniors ...	Age 16 £100; age 17 £120 a year
Class 4 ...	£160 at age 18 rising to £360 a year at age 36 with a proficiency test on attaining a salary of £280 at age 26
Class 3 ...	£372–£412 a year
Class 2 ...	£432–£472 ,,
Class 1 ...	£512–£600 ,,
Special class	Minimum £650 a year

The London area to extend to 20 miles from Charing Cross, and salaries in this area to be increased by £10 and a complete revision of the conditions of service of salaried staff is claimed.

The Associated Society of Locomotive Engineers & Firemen is claiming the following new rates of pay for the grades it represents :—

Drivers and motormen	
1st year	£5 14s. a week
2nd year	£6 0s. ,,
3rd year	£6 6s. ,,
4th year	£6 12s. ,,
Firemen	
1st year	£4 10s. ,,
2nd year	£4 16s. ,,
3rd year	£5 2s. ,,
4th year	£5 8s. ,,
Cleaners	
16 years of age ... ... rising to	£2 8s. ,,
20 years of age	£4 0s. ,,

The main items of its claim for improved conditions are a guaranteed week of 40 hr. to be worked in five days of 8 hours each; 120 miles to constitute a day's work with mileage in excess paid on the basis of one hour's pay for each additional 15 miles; twelve days' holiday each year; payment at double-time rate for work on bank holidays and a day off in lieu; double-time rate for Sunday duty; time-and-a-half rate for duty between 6 p.m. and 6 a.m.; overtime payment to be time-and-a-half with double-time rate when worked between 6 p.m. and 6 a.m.; payment of wages to be made during illness on the same basis as for salaried staff; a pension scheme to be introduced providing a pension of not less than 50 per cent. of the retiring pay at age 60.

The Railway Clerks' Association is claiming new scales of pay as follow :—

Stationmasters, goods agents and supervisory staff	
Class 4	£350–£390 a year
Class 3	£410–£450 ,,
Class 2	£475–£500 ,,
Class 1	£550–£600 ,,
Special class	Minimum £650 a year
Control staff	
Class 4 ...	£160 at age 18 rising to £360 a year at age 36 with a proficiency test on attaining a salary of £280 at age 26
Class 3 ...	£410–£450 a year
Class 2 ...	£475–£500 ,,
Class 1 ...	£550–£600 ,,
Special class	Minimum £650 a year
Clerical staff	
Juniors ...	Age 16 £100; age 17 £120 a year
Class 4 ...	£160 at age 18 rising to £360 a year at age 36 with a proficiency test on attaining £280 per annum at age 26
Class 3 ...	£390–£410 ayear
Class 2 ...	£435–£460 ,,
Class 1 ...	£500–£600 ,,
Special class	Minimum £650 a year

The above salaries are to be increased by £10 to staff working at stations or depots within a radius of 20 miles from Charing Cross. At least 50 per cent. of the clerical positions are to be in class 4 and at least 25 per cent. in classes above class 3. A special joint committee representative of the management and the staff is suggested for assisting the authorities in making their decisions in regard to promotion.

The main items of the R.C.A. claim dealing with conditions of service are a 35 hour week to be worked in five turns of 7 hours; night duty between 6 p.m. and 6 a.m. to be paid for at the rate of time-and-a-half and for those continuously employed during these hours to be relieved one turn of duty every 10 nights; overtime worked between 6 p.m. and 6 a.m. to be paid for at the rate of double time and for overtime outside these hours at the rate of time-and-a-half; Sunday duty to be paid for at the rate of double time with certain minimum payments; holidays to be three weeks for staff with up to 15 years' service and four weeks over 15 years' service; staff required to work on bank holidays to be paid at the rate of time-and-a-half except on Good Friday, and Christmas Day when the payment shall be double time and in addition they shall be given leave in lieu of the time worked on bank holidays. Other proposals deal with higher grade duty pay, expenses, travelling time, "on call" allowances, uniform and relief clerks.

Engineering Wages

The engineering employers on March 21 rejected the claim of the unions in the industry for a substantial advance of the base rates of men's and boys' wages and also the claims, first presented last September, for a 40-hour working week at the end of hostilities and for payment for statutory holidays and 12 days' paid annual holiday.

Sir Alexander Ramsay, in making the employers' reply, said that they were satisfied that the country already was so heavily committed to its people and their security that no other substantial risks should be taken till this obligation had been fulfilled.

It is understood that the dispute on the wages claim will be reported to the Ministry of Labour so that it might be referred to the National Arbitration Tribunal. The claims for the 40 hour week and payment for statutory holidays and for 12 days annual holiday with pay would be reviewed by the National Engineering Joint Trades movement.

S.R. Locomotive Naming

"United States Lines"

On Tuesday the twelfth of the "Merchant Navy" class of Southern Railway mixed-traffic locomotives was named *United States Lines* at Waterloo Station by Admiral R. E. Schuirmann, U.S.N. Among those present were Mr. T. A. Monroe, European Director, United States War Shipping Administration, and Officers of the United States Lines, together with the Southern Railway Chairman, Colonel Eric Gore Browne, D.S.O., and the General Manager, Sir Eustace Missenden.

At the outset of the proceedings, Colonel Gore Browne, in extending his welcome to the Admiral, observed that eleven of these engines were already on the road and they already bore names of famous British shipping companies. This, the twelfth of its class, bore the name and house flag of the United States Lines, an American company which used Southern Railway docks in peacetime and which he hoped would use them again in increasing numbers when the war was over. He considered himself fortunate to have the opportunity on behalf of all in the Southern Railway to pay tribute to the great American nation and to thank it for all it had done and was doing to help in the present conflict. He expressed the hope that when peace came the United States and Great Britain would together go forward in confidence and in mutual sympathy to make a new and happier world. As this great engine flashed through southern England with the house flag of the United States Lines on its flanks he hoped it would transport a great volume of passengers and goods from both sides of the Atlantic and throughout its life form one more link in a union of which the whole future of the world might depend.

Admiral Schuirmann, in reply, paid his tribute to the manner in which the two Navies and the Merchant Navies had operated as one and expressed his admiration of what the British railways and the Southern Railway in particular, had done for the United States in getting supplies through expeditiously.

Subsequently at an informal gathering Mr. Ernest V. King, describing himself as "one of the Eastleigh men," presented autographed souvenirs to Admiral Shuirmann and Mr. Monroe.

Among those present at the naming ceremony were:—

Southern Railway: Colonel Eric Gore Browne, D.S.O. (Chairman); Rt. Hon. the Earl of Radnor (Deputy Chairman); Hon. Clive Pearson (Director); Sir Eustace Missenden O.B.E. (General Manager); Messrs. C. Grasemann (Public Relations & Advertising Officer); J. L. Harrington (Assistant (General)); K. R. Ellson (Public Relations Assistant); O. V. Bulleid (Chief Mechanical Engineer); V. A. M. Robertson, C.B.E. (Chief Civil Engineer); R. M. T. Richards, O.B.E. (Traffic Manager); H. A. Short, M.C. (Docks & Marine Manager); S. W. Smart (Superintendent of Operation); T. E. Chrimes (Superintendent of Motive Power); R. P. Biddle (Deputy Director of Ports, M.W.T.); Colonel C. Francis, C.B.E. (Stores Superintendent); Colonel H. C. Prescott, C.M.G. (Chief of Police); Captain G. Hancock, D.S.C. (Commodore Dover Fleet); Messrs. D. Robinson (Chief Engineer (Southampton)); C. A. Soar, L. Frith, and E. King (members of Shop staff, Eastleigh Works).

Guests: Admiral R. E. Schuirmann (United States Navy); Messrs. T. A. Monroe (European Director U.S. War Shipping Administration); C. H. Kemp (European General Manager, U.S. Lines); A. E. Moore (District Passenger Manager, U.S. Lines); H. C. Woodley (Acting Passenger Manager, U.S. Lines); Lt. J. L. B. Williams (U.S. Navy); Messrs. J. A. Kay (Editor, *The Railway Gazette*); J. P. Taylor (Editor, *Shipbuilding and Shipping Record*); C. F. Klapper (Assistant Editor, *Modern Transport*); C. A. Smith (International News Service); Phillip Ault (United Press of America); Mr. Vosser (*New York Times*); and Mr. H. Martin (Editor-in-Chief, Press Association).

Notes and News

Agreed Charges.—Applications have been made to the Railway Rates Tribunal for the approval of 55 further agreed charges under the provisions of Section 37 of the Road & Rail Traffic Act, 1933. Notices of objection were to be filed by April 10.

New York Central Railroad Foreign Commerce.—It was announced from New York on March 28 that the New York Central Railroad is developing a Foreign Commerce Department which will have offices and representatives in key cities along the railway system and in foreign countries, including Latin America and eventually Europe.

Road Accidents in February, 1945.—The return issued by the Ministry of War Transport of the number of persons reported to have died, or to have been injured, as a result of road accidents in Great Britain during the month of February last shows 384 deaths (compared with 545 in February, 1944), 1,958 seriously injured (compared with 2,415 in February, 1944), and 5,575 slightly injured (compared with 6,568 in February, 1944).

Permanent Way Institution.—At a meeting of the Manchester & Liverpool Section, to be held in the lecture hall at the Temperance Institute, Southport, on April 14, at 3 p.m., on the conclusion of other business, a lecture on "The Art of Timbering" will be given jointly by Mr. R. Morris, of Miles Platting, and Mr. O. Humphreys, B.Sc., A.M.Inst.C.E., of Manchester. The inspectors' point of view will be given by Mr. Morris, and Mr. Humphreys will demonstrate how the drawing office staff tries to provide for the inspectors' requirements.

Canadian Pacific Railway.—Gross earnings of the Canadian Pacific Railway for the month of February, 1945, were $23,159,000, a decrease of $634,000 in comparison with February, 1944. The working expenses of $21,408,000 showed an increase of $655,000, leaving net earnings $1,289,000 lower, at $1,751,000. Aggregate gross earnings from January 1, 1945, amounted to $47,249,000, a decrease of $479,000, and aggregate net earnings of $3,413,000 were $2,465,000 lower than those for 1944. In August, 1944, accumulated cost of wage increases previously granted was charged against working expenses. This has made subsequent net earnings appear lower than they would have done on a straight comparison.

Coventry Gauge & Tool Co. Ltd.—Speaking at the annual general meeting of the Coventry Gauge & Tool Co. Ltd. held recently at Coventry, Mr. H. H. Harley, C.B.E., the Chairman, said the company was in process of making important arrangements to foster future export trade. The Chairman also referred to the faithful promise given by the directors to all employees that they would be reinstated on their return from service with H.M. Forces.

L.N.E.R. Sugar Beet Traffic.—This season's crop of home-grown sugar beet again will meet the nation's domestic sugar ration. Fifteen of the 18 sugar beet factories in Great Britain are on the L.N.E.R. and to these the L.N.E.R. carried a million tons of beet in 107,000 wagons. At the beginning of the year frosty weather closed all the factories except that at Spalding. This factory remained open to take the beet from all over the country when the weather permitted lifting to be resumed. The result was that the L.N.E.R. ran 55 more trains conveying 16,400 tons of beet to the Spalding factory than during the previous season.

S.M.T. Insurance.—A joint stock company entitled S.M.T. Insurance Limited

British and Irish Railway Stocks and Shares

Stocks	Highest 1944	Lowest 1944	Prices April 10, 1945	Prices Rise/Fall
G.W.R.				
Cons. Ord.	62¾	55	58½	+ ¼
5% Con. Pref. ...	122½	114¾	121½	+ 4
5% Red. Pref. (1950)	110½	104	105	—
5% Rt. Charge ...	135½	128	135½	+ 1
5% Cons. Guar. ...	134 3/16	125	133½	+ 1
4% Deb.	118½	112¾	116½	—
4½% Deb.	118 1/16	114	118½	—
4½% Deb.	124½	119½	122½	—
5% Deb.	137	129½	136½	—
2½% Deb.	77	73½	76½	+ 1
L.M.S.R.				
Ord.	34⅜	27⅛	29½	+ ¼
4% Pref. (1923) ...	64¼	55¾	59½	+ 1
4% Pref.	81	72¼	78½	+ 1½
5% Red. Pref. (1955)	105⅞	102	104½	+ ½
4% Guar.	107½	99½	103½	+ 1
4% Deb.	111½	104	109	+ 1
5% Red. Deb. (1952)	111	108	109½	—
L.N.E.R.				
5% Pref. Ord. ...	10½	7 7/16	7⅜	+ ⅛
Def. Ord.	5 7/16	3⅛	3⅜	+ ⅛
4% First Pref. ...	68⅜	55¼	58	+ 1½
4% Second Pref. ...	35⅜	28½	30½	—
5% Red. Pref. (1955)	102½	97⅛	101½	+ ½
4% First Guar. ...	105½	96⅜	102½	+ 1½
4% Second Guar. ...	95½	88½	96	+ 1
3% Deb.	88½	80⅜	86½	+ 1
4% Deb.	110½	103½	108	+ 1½
5% Red. Deb. (1947)	105⅜	101¼	101¼	—
4½% Sinking Fund Red. Deb.	107	104¼	105½	+ 1
SOUTHERN				
Pref. Ord.	80½	71⅞	78	+ 1
Def. Ord.	26⅜	23	24½	+ ¼
5% Pref.	122	113½	121½	+ 4
5% Red. Pref. (1964)	117½	112½	115½	—
5% Guar. Pref. ...	134	125½	133½	+ 1
5% Red. Guar. Pref. (1957)	115¾	112½	114½	—
4% Deb.	118	110	116	+ ½
5% Deb.	135½	127	135	—
4% Red. Deb. (1962-67)	111½	107½	110½	—
4% Red. Deb. (1970-80)	112	108¾	112½	+ 1
FORTH BRIDGE				
4% Deb.	107	103	105½	+ ½
4% Guar.	106½	102	105½	+ ½
L.P.T.B.				
4½% "A"	125	119	123½	+ 1
5% "A"	133½	128	132½	—
3% Guar. (1967-72)...	99½	98	99	—
5% "B"	124½	118 7/16	123½	—
"C"	72¼	64½	65½	—
MERSEY				
Ord.	35⅜	33	36	—
3% Perp. Pref. ...	72	66	70	—
4% Perp. Deb. ...	105	103	106	—
3% Perp. Deb. ...	85½	79½	84	—
IRELAND*				
BELFAST & C.D.				
Ord.	9	6	6½	—
G. NORTHERN				
Ord.	33⅜	19	26½	—
Pref.	49	37	43½	—
Guar....	70	57 7/16	70	+ 1
Deb.	90¼	81¼	91	— 1
IRISH TRANSPORT				
Common	—	—	72½	+ 1½
3% Deb.	—	—	99⅛	+ ⅜

* Latest available quotation

OFFICIAL NOTICES

OFFICIAL ADVERTISEMENTS

OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is 9.30 a.m. on the preceding Monday. All advertisements should be addressed to:—*The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

FIRM of Mechanical Engineers wants to extend its activities into the railway field and is looking for a qualified Mechanical Engineer to act as Liaison Engineer between the Company and the Railway Companies. Only first class applicants need apply for this permanent position. Appointment would be made immediately or, if applicant is not available immediately, as soon as restrictions on employment are lifted. Write to Box No. 64, *The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

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50th Annual Edition, 1944-45

Price 20/- net.

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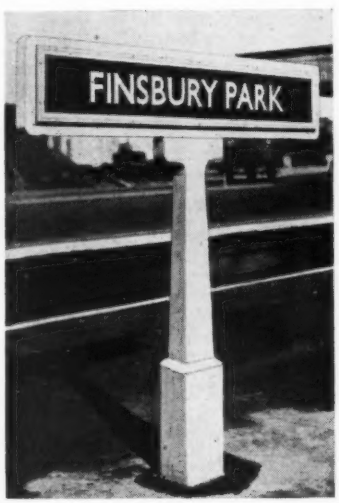
has been registered in Edinburgh, with a capital of £200,000 in £1 shares. The business of the company is restricted to the insurance of the motor vehicle risk of the Scottish Motor Traction Co. Ltd. and its subsidiary and associated companies. The directors are Sir William J. Thomson, Sir Robert B. Greig, Messrs. R. J. M. Inglis, Malcolm S. Speir, Walter Alexander, junr., Robert Beveridge, James Amos, Robert B. Dick, John C. Sword, and T. B. Cameron.

L.N.E.R. Station Nameboards.—As we recorded briefly in our December 15 issue (page 611), the L.N.E.R. is experimenting with a type of station nameboard which may become the standard for all stations on the system. The nameboards, which are supported by a single concrete post, are of three sizes: (*a*) 3 ft. 8½ in. × 1 ft. 1¾ in.; (*b*) 5 ft. 3½ in. × 1 ft. 1¾ in.; and (*c*) 5 ft. 3½ in. × 1 ft. 7¾ in., and consist of vitreous-enamel plates with 4 in. white Gill sans letters on a



blue background. For ease of reading the levels of types (*a*) and (*b*) will be 5 ft. 1¼ in. from the ground to the centre of the lettering, and for type (*c*), which allows for a double-line name, the same level will be maintained to the bottom line of lettering. The accompanying illustration is of type (*b*), and it is intended to have two to five such boards on each platform according to the size of the station. We showed this nameboard in contrast with a pre-war sign last December, in the issue above quoted.

Assam-Bengal Railway Co. Ltd.—A general meeting of the members of the above-named company will be held at the office of the company, 56, Victoria Street, London, S.W.1, on April 25 at 12 noon for the purpose of having an account laid before them showing how the winding-up has been conducted and the property of the company disposed of, and of hearing any explanation which may be given by the liquidator, and of determining by extraordinary resolution the manner in which the books, accounts and documents of the company and of the liquidator thereof shall be disposed of.

McNamara & Co. Ltd.—Treasury consent has been given to the proposed issue of shares by Transport Services Limited to provide cash for the purchase of the ordinary stock of McNamara & Co. Ltd. The cash price would be 30s. 6d. per stock unit of 12s. Transport Services Limited has agreed that if stockholders accept the offer to the extent of 90 per cent. of the stock or such smaller amount as the company may approve, McNamara & Co. Ltd. shall be permitted to declare an interim dividend of 8⅓ per cent., for the year 1944, to stockholders registered at March 23, 1945.

The Metropolitan Railway Surplus Lands Co. Ltd.—Speaking recently at the annual general meeting of the Metropolitan Railway Surplus Lands Co. Ltd., Sir Bernard D. F. Docker, K.B.E., who presided, said that the company was now at liberty to reveal the extent to which its estate had suffered by enemy action. The loss in revenue arising from war damage was nearly £20,000 a year on the basis of 1939 rentals. Vacant properties, having a 1939 rental value approaching £10,000 a year remained unlet, largely as a result of war conditions, particularly the Location of Retail Businesses Order, 1942, and the restrictions on carrying out building repairs and improvements.

South African Imports.—A substantial increase in South African imports from Great Britain, the United States of America, and India, and a sharp decline in imports from Argentina and Brazil, are revealed in a memorandum on South African trade returns during the past year submitted to the House of Assembly by the Minister of Finance. The memorandum shows that Great Britain sent to the Union more goods than any other country, with the U.S.A. second, and India third. There have been steady increases in imports from Southern Rhodesia (which amounted to £2,000,000 in 1944), and from the Belgian Congo (which amounted to £3,000,000 last year, against £600,000 in 1941). South African exports, excluding gold and wool, increased from £33,000,000 in 1943 to £39,000,000 last year.

Londonderry & Lough Swilly Railway Company.—At an extraordinary meeting of the Londonderry & Lough Swilly Railway Company held recently, Major Sir Basil A. T. M'Farland, the Chairman, presiding, the following resolution was unanimously adopted: "That the company approve of the creation and issue of £10,000 4 per cent. debenture stock of the company authorised under the Londonderry & Lough Swilly Act, 1924, such debenture stock to be issued to the present holders of the £10,000 county guaranteed 4 per cent. stock in the same amounts and in lieu of their present holdings of the said 4 per cent. guaranteed stock and being accepted by them in exchange therefor." Moving the adoption of the resolution, the Chairman explained that the change was required in consequence of the closing of the Carndonagh extension of the system in 1935 in pursuance of an Order issued under the Eire Railways Act of 1933, and of a similar Order closing the Burtonpoint line which was issued in 1940 but the application of which was postponed because of war conditions. The resolution was unanimously adopted.

The A.B.C. Guide.—With its March issue, *The A.B.C. or Alphabetical Railway Guide* changed its title to *The A.B.C. or Alphabetical Railway and Air Guide*. With the April issue, the two parts have been segregated, with Part I—Railways printed on white paper in the familiar form, and Part II—Airway Services printed on yellow paper and bearing the separate number 79, but bound in the same covers. The proprietors have announced their intention, when air services are generally resumed, to publish Parts I and II in separate volumes, as it is expected that the increase in air travel will make it inconvenient to include in one volume the full details of railway and air services.

Contracts and Tenders

Mr. S. T. Turner, who has been with B.X. Plastics Limited since 1931 has joined the Expanded Rubber Co. Ltd., of Mitcham, with which he will occupy the position of Sales Manager. The activities of the Expanded Rubber Co. Ltd., which is a subsidiary of B.X. Plastics Limited, cover the development, not only of expanded rubber products, but also of expanded plastics.

Below is a list of orders placed recently by the Egyptian State Railways:—

Turner Brothers Asbestos Co. Ltd.: Asbestos rope packing, etc.
Cork Manufacturing Co. Ltd.: Cork sheets.
Clyde Rubber Works Co. Ltd.: Rubber.
Imperial Chemical Industries Limited: Rexine brown bars.
Attwater & Sons Ltd.: Mica paper.
Morgan Crucible Co. Ltd.: Body lining.
Marconi's Wireless Telegraph Co. Ltd.: Condensers.
Crown Spring Co. Ltd.: Locomotive spares.
Staveley Coal & Iron Co. Ltd.: Pipes, etc.
A. Balfour & Co. Ltd.: Files

Forthcoming Meetings

April 14 (*Sat.*).—The Permanent Way Institution, London Road, Temperance Institute, Southport. 3 p.m. Lecture: "The Art of Timbering," by Mr. O. Humphreys, B.Sc., A.M.Inst.C.E., of Manchester, and Mr. R. Morris, of Miles Platting.

April 18 (*Wed.*).—The Institution of Railway Signal Engineers, at The Institution of Electrical Engineers, Savoy Place, Victoria Embankment, London, W.C.2. 5.30 p.m. "The Signalling of Single Line Stations," by Mr. R. S. Griffiths.

April 21 (*Sat.*).—The Institute of Transport Metropolitan Graduate & Student Society, at the Institution of Electrical Engineers, Victoria Embankment, W.C.2, 2.15 p.m. "Government Control of Railways," by Mr. C. F. Klapper.

Railway Stock Market

Cheerful stock markets have continued to reflect the excellent war news, under the lead of British Funds and industrial shares. The rising trend of values extended to Far Eastern securities which received more attention on hopeful views aroused by Russia's calling off of the Russo-Japanese Neutrality Pact. There was a better tendency in home rails, more particularly prior charges and senior preference stocks, demand for which was attributed to reinvestment of moneys arising from the Australian conversion operation.

Argentine rails, however, again provided the best feature among rail stocks, reflecting more confident views of the political position after Great Britain's recognition of the Argentine Government. Main attention continued to centre on the debentures, which showed further good gains, but preference and ordinary stocks were receiving more attention, not only on the short-term viewpoint, but also from the long-term angle; the latter was based on the expected big post-war demand for Argentine products. There can be no question of resumption of dividends on the ordinary stocks until the railways receive fair treatment from the Argentine Government.

Moreover, it is recognised that the fuel position is very difficult and that the question of renewals must loom large in the post-war period. Nevertheless, the market for Argentine railway stocks has been more active than for a long time; post-war hopes have tended to influence sentiment more than the difficult conditions which have ruled for many years, during which preference as well as ordinary stocks have gone out of the dividend list and in some cases debenture interest fallen into arrear.

Markets have failed to maintain marked improvement in business, partly because recent political speeches came as a reminder that the General Election is looming ahead, the result of which must have an important bearing on the future, particularly in regard to the railways. Sentiment as to home rails has not been much affected by the latest wage claims of the unions. It is recognised that the increased wages bill and the big upward curve in the cost of materials, etc., will not affect the amount available for dividends on the junior stocks so long as the fixed rental agreement is in being. These increased costs, however, will have an important bearing on the future of the railways as efficient and profit-earning undertakings, and will, of course, be bound up with the question of railway charges and the post-war settlement of transport problems.

As compared with a week ago, Great Western improved from 58⅛ to 58½; the 5 per cent. preference rose from 118 to 120½, and the guaranteed stock was a point higher at 133, and the 4 per cent. debentures strengthened to 116½. L.M.S.R. was firmer at 29¼; the senior preference rose from 76¾ to 78½ and the 1923 preference from 58½ to 59¼. L.M.S.R. guaranteed stock was also a point up at 103½ and the 4 per cent. debentures strengthened from 107½ to 109. L.N.E.R. second preference firmed up from 30⅛ to 30⅜, and the first preference from 56⅜ to 58; the first guaranteed also improved from 101 to 102½ and the second guaranteed from 95½ to 96. Southern issues reflected the upward trend in preference stocks; the 5 per cents 120½, compared with 118 a week ago; the 4 per cent. debentures were fractionally higher at 115½. Southern deferred was 24⅛, or unchanged on balance, but the preferred was 77¾, compared with 77 a week ago. London Transport "C" at 65½ regained an earlier small decline.

Among Argentine rails, Buenos Ayres Great Southern was 13 compared with 12½ a week ago; the 5 per cent. preference also rose further from 27 to 27¾, and the 4 per cent. debentures from 66 to 67. Buenos Ayres & Pacific consolidated debentures advanced from 56 to 60, and the 5 per cent. debentures also rose from 27 to 30.

Ordinary stocks generally were fractionally higher with gains of a point or over in the debentures. Central Argentine 5 per cent. debentures were 68, against 66 a week ago, and Buenos Ayres Western 4 per cent. debentures 60, compared with 56.

French rail bonds showed further small declines. Elsewhere, Canadian Pacifics eased to 14⅜.

Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open	Week ended	Traffic for week: Total this year	Traffic for week: Inc. or dec. compared with 1942/3	No. of Weeks	Aggregate traffics to date: Totals 1943/4	Aggregate traffics to date: Totals 1942/3	Aggregate traffics to date: Increase or decrease	Shares or Stock	Prices: Highest 1944	Prices: Lowest 1944	Prices: April 10, 1945	Yield % (See Note)
				£	£		£	£	£					
South & Central America	Antofagasta (Chili) & Bolivia	834	1.4.45	30,410	+ 4,470	13	398,230	370,190	+ 28,040	Ord. Stk.	13¼	9½	11½	Nil
	Argentine North Eastern ...	753	31.3.45	18,780	+ 2,367	39	770,367	632,867	+ 137,500	,,	6¾	4½	8	Nil
	Bolivar	174	Mar., 1945	5,430	— 576	12	16,069	15,953	+ 115	6 p.c. Deb.	18¾	7½	7½	Nil
	Brazil	—	—	—	—	—	—	—	—	Bonds	19 7/16	15	22	Nil
	Buenos Ayres & Pacific ...	2,773	31.3.45	176,000	+ 30,666	39	5,627,266	4,621,466	+ 1,005,800	Ord. Stk.	7 1/16	3¾	6½	Nil
	Buenor Ayres Great Southern	5,086	31.3.45	287,933	+ 61,200	39	8,728,866	7,979,333	+ 749,533	Ord. Stk.	14⅞	9¾	13	Nil
	Buenos Ayres Western ...	1,924	31.3.45	73,733	+ 3,733	39	2,958,066	2,465,400	+ 492,666	,,	13¾	9½	12	Nil
	Central Argentine	3,700	31.3.45	197,703	— 764	39	7,543,260	6,622,680	+ 920,580	,,	10¼	6⅞	9¼	Nil
	Do.	—	—	—	—	—	—	—	—	Dfd.	4¾	3	4½	Nil
	Cent. Uruguay of M. Video	972	31.3.45	32,265	— 9,179	39	1,327,085	1,353,320	— 26,235	Ord. Stk.	5¼	4	5½	Nil
	Costa Rica	262	Feb., 1945	25,615	+ 2,810	34	172,502	175,664	— 3,162	Stk.	17½	14½	16	Nil
	Dorada	70	Feb., 1945	26,677	+ 5,005	8	58,605	47,692	+ 10,913	1 Mt. Deb.	101	101	98½	£6 1 10
	Entre Rios	808	31.3.45	23,973	+ 1,373	39	1,035,346	868,373	+ 156,373	Ord. Stk.	6½	4½	5½	Nil
	Great Western of Brazil ...	1,030	24.3.45	26,800	+ 2,500	12	333,000	291,600	+ 41,400	Ord. Sh.	38/–	23/3	27/6	Nil
	International of Cl. Amer. ...	794	Feb., 1945	$200,380	— $71,015	8	$385,547	$482,439	— $96,892	—	—	—	—	—
	Interoceanic of Mexico ...	—	—	—	—	—	—	—	—	1st Pref.	1⅜	⅛	1	Nil
	La Guaira & Caracas... ...	22¼	Mar., 1945	5,393	— 2,311	12	15,910	21,956	— 6,046	5 p.c. Deb.	88	79	78½	£6 7 5
	Leopoldina	1,918	31.3.45	44,042	+ 1,435	13	591,532	568,319	+ 23,213	Ord. Stk.	5⅝	4¼	4¼	Nil
	Mexican	483	31.3.45	ps. 965,600	+ ps.298,300	13	ps. 7,828,500	ps. 5,329,400	+ ps. 2,499,100	Ord. Stk.	¼	⅛	1⅛	Nil
	Midland Uruguay	319	Jan., 1945	18,823	+ 2,142	30	119,654	120,147	— 493	—	—	—	—	—
	Nitrate	382	31.3.45	8,447	— 933	13	36,225	53,480	— 17,255	Ord. Sh.	75/10	65/10	71/3	£3 10 2
	Paraguay Central	274	30.3.45	G$59,885	+ G$1,706	39	G$2,316,783	G$2,007,271	+ G$309,512	Pr. Li. Stk.	79½	68	77½	£7 14 9
	Peruvian Corporation ...	1,059	Mar., 1945	138,377	+ 21,175	39	1,170,479	964,686	+ 205,793	Pref.	9	10	9⅛	Nil
	Salvador	100	Feb., 1945	c 206,000	+ 18,000	34	£ 957,000	£ 984,000	— c 27,000	—	—	—	—	—
	San Paulo	153¼	—	—	—	—	—	—	—	Ord. Stk.	57⅛	46	54	£3 14 1
	Taltal	156	Feb., 1945	2,085	— 2,475	34	20,045	45,270	— 25,225	Ord. Sh.	21/3	13/9	12/6	Nil
	United of Havana	1,301	1.4.45	81,665	— 12,425	39	2,098,614	2,161,263	— 62,651	Ord. Stk.	4	2½	2⅜	Nil
	Uruguay Northern	73	Jan., 1945	1,634	+ 272	30	10,521	10,078	+ 443	—	—	—	—	—
Canada	Canadian Pacific	17,028	31.3.45	1,847,600	— 73,800	13	14,726,400	14,969,600	- 243,200	Ord. Stk.	17¾	13 11/16	14⅜	£7 1 10
India†	Barsi Light	202	Feb., 1945	20,220	— 4,467	44	243,080	237,600	+ 5,480	Ord. Stk.	129½	97½	126½xd	£3 11 2
Various	Egyptian Delta	607	10.3.45	19,050	— 1,085	49	666,689	583,265	+ 83,424	Prf. Sh.	7 13/16	5¼	7⅛	Nil
	Manila	—	—	—	—	—	—	—	—	B. Deb.	63½	58	62½	Nil
	Midland of W. Australia ...	277	Feb., 1945	15,394	— 6,189	35	155,340	245,502	— 90,162	Inc. Deb.	101½	99⅛	96½	£4 2 11
	Nigeria	1,900	27.1.44	395,318	— 30,784	13	—	—	—	—	—	—	—	—
	South Africa	13,301	24.2.45	1,008,304	+ 134,909	47	43,878,233	39,571,258	+ 4,306,975	—	—	—	—	—
	Victoria	4,774	Nov., 1944	1,307,642	— 35,856	—	—	—	—	—	—	—	—	—

Note. Yields are based on the approximate current price and are within a fraction of 1/16. Argentine traffics are given in sterling calculated @ 15 pesos to the £

† Receipts are calculated @ 1s. 6d. to the rupee